

U.S. Department of Education

Washington, D.C. 20202-5335



APPLICATION FOR GRANTS UNDER THE

**STATEWIDE LONGITUDINAL DATA SYSTEM RECOVERY ACT GRANTS
CFDA # 84.384A
PR/Award # R384A100034**

Closing Date: NOV 19, 2009

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Application for Federal Assistance SF-424		Version 02			
<div>* 1. Type of Submission<div><div><input type="checkbox"/> Preapplication</div><div><input checked="" type="checkbox"/> Application</div><div><input type="checkbox"/> Changed/Corrected Application</div></div></div>			<div>* 2. Type of Application:* If Revision, select appropriate letter(s):<div><div><input checked="" type="checkbox"/> New</div><div><input type="checkbox"/> Continuation</div><div><input type="checkbox"/> Revision</div></div><div>* Other (Specify)</div></div>		
* 3. Date Received: <div>12/3/2009</div>		4. Applicant Identifier:			
5a. Federal Entity Identifier: <div>N/A</div>		* 5b. Federal Award Identifier: <div>N/A</div>			
State Use Only:					
6. Date Received by State:		7. State Application Identifier:			
8. APPLICANT INFORMATION:					
* a. Legal Name: Education (265) Oklahoma State Department of Education					
* b. Employer/Taxpayer Identification Number (EIN/TIN): <div>736017987</div>		* c. Organizational DUNS: <div>809929649</div>			
d. Address:					
* Street1:		2500 N Lincoln Blvd			
Street2:					
* City:		Oklahoma City			
County:		Oklahoma			
State:		OK			
Province:					
* Country:		USA			
* Zip / Postal Code:		73105			
e. Organizational Unit:					
Department Name: <div>Oklahoma State Department of Education</div>		Division Name: <div>The Wave, Oklahoma Statewide Student Information System</div>			
f. Name and contact information of person to be contacted on matters involving this application:					
Prefix:		* First Name:		Barbara	
Middle Name:					

* Last Name: Roewe

Suffix:

Title: Project Manager, The Wave, Oklahoma Statewide Student Information System

Organizational Affiliation:

Oklahoma State Department of Education

* Telephone
Number:

(405)522-8198

Fax Number:

(405)522-5121

* Email: BARBARA_ROEWE@SDE.STATE.OK.US

Application for Federal Assistance SF-424

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9. Type of Applicant 1: Select Applicant Type:

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

10. Name of Federal Agency:

U.S. Department of Education

11. Catalog of Federal Domestic Assistance Number:

84.384A

CFDA Title:

Statewide Longitudinal Data System Recovery Act Grants

*** 12. Funding Opportunity Number:**

ED-GRANTS-072909-001

Title:

Statewide Longitudinal Data Systems Grants under the American Recovery and Reinvestment Act of 2009

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

State of Oklahoma, 77 Counties, All public school districts and all Charter schools/districts.

*** 15. Descriptive Title of Applicant's Project:**

The OKLDS is a collaborative effort coordinated by the State Department of Education to link preschool, postsecondary, and workforce information.

Attach supporting documents as specified in agency instructions.

Attachment:

Title :

File :

Attachment:

Title :

File :

Attachment:

Title :

File :

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

* a. Applicant: OK - all

* b. Program/Project: OK - all

Attach an additional list of Program/Project Congressional Districts if needed.

Attachment:

Title :

File :

17. Proposed Project:

* a. Start Date: 3/1/2010

* b. End Date: 2/28/2013

18. Estimated Funding (\$):

a. Federal	\$ 0
b. Applicant	\$ 17620505
c. State	\$ 2289289
d. Local	\$
e. Other	\$
f. Program Income	\$
g. TOTAL	\$ 19909794

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

[X] c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)**

☐ Yes ☒ No

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:	* First Name:	Sandy
Middle Name:		
* Last Name:	Garrett	
Suffix:		

Title: State Superintendent of Public Instruction

* Telephone Number: (405)521-4885 Fax Number: (405)522-5121

* Email: SANDY_GARRETT@SDE.STATE.OK.US

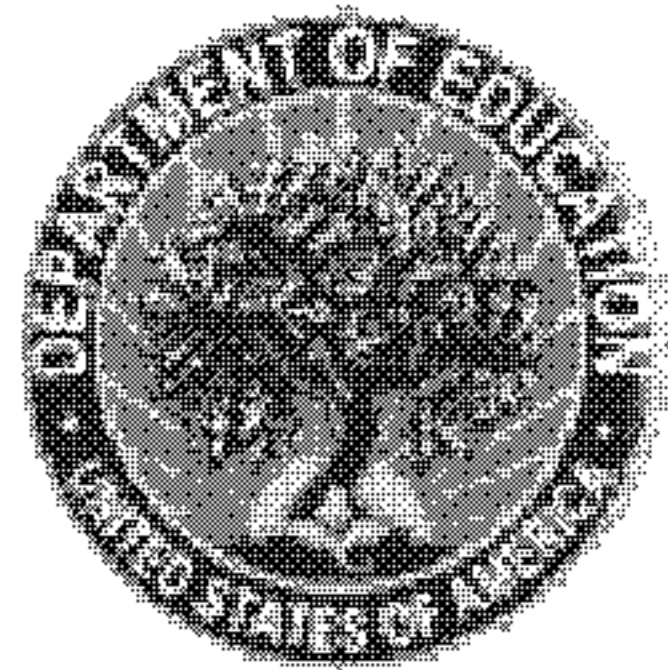
* Signature of Authorized Representative: _____

Application for Federal Assistance SF-424

Version 02

*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

**U.S. DEPARTMENT OF EDUCATION****BUDGET INFORMATION****NON-CONSTRUCTION PROGRAMS**

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:
Education (265) Oklahoma State D...

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION A - BUDGET SUMMARY**U.S. DEPARTMENT OF EDUCATION FUNDS**

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	\$ 5,762,150	\$ 4,447,450	\$ 3,120,280	\$ 0	\$ 0	\$ 13,329,880
2. Fringe Benefits	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
3. Travel	\$ 19,000	\$ 13,000	\$ 13,000	\$ 0	\$ 0	\$ 45,000
4. Equipment	\$ 2,430,625	\$ 1,223,000	\$ 324,000	\$ 0	\$ 0	\$ 3,977,625
5. Supplies	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
6. Contractual	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
7. Construction	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
8. Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
9. Total Direct Costs (lines 1-8)	\$ 8,211,775	\$ 5,683,450	\$ 3,457,280	\$ 0	\$ 0	\$ 17,352,505
10. Indirect Costs*	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
11. Training Stipends	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
12. Total Costs (lines 9-11)	\$ 8,211,775	\$ 5,683,450	\$ 3,457,280	\$ 0	\$ 0	\$ 17,352,505

***Indirect Cost Information (To Be Completed by Your Business Office):**

If you are requesting reimbursement for indirect costs on line 10, please answer the following questions:

(1) Do you have an Indirect Cost Rate Agreement approved by the Federal government? ☐ Yes ☐ No

(2) If yes, please provide the following information:

Period Covered by the Indirect Cost Rate Agreement: From: __/__/____ To: __/__/____ (mm/dd/yyyy)

Approving Federal agency: ☐ ED ☐ Other (please specify): _____ The Indirect Cost Rate is _____%

(3) For Restricted Rate Programs (check one) -- Are you using a restricted indirect cost rate that:

☐ Is included in your approved Indirect Cost Rate Agreement? or, ☐ Complies with 34 CFR 76.564(c)(2)? The Restricted Indirect Cost Rate is _____%

**U.S. DEPARTMENT OF EDUCATION****BUDGET INFORMATION****NON-CONSTRUCTION PROGRAMS**

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:
Education (265) Oklahoma State D...

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION B - BUDGET SUMMARY**NON-FEDERAL FUNDS**

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	\$ 622,540	\$ 653,667	\$ 686,350	\$ 0	\$ 0	\$ 1,962,557
2. Fringe Benefits	\$ 361,512	\$ 379,127	\$ 398,083	\$ 0	\$ 0	\$ 1,138,722
3. Travel	\$ 9,500	\$ 12,000	\$ 15,000	\$ 0	\$ 0	\$ 36,500
4. Equipment	\$ 5,087	\$ 6,880	\$ 119,729	\$ 0	\$ 0	\$ 131,696
5. Supplies	\$ 4,000	\$ 4,000	\$ 4,000	\$ 0	\$ 0	\$ 12,000
6. Contractual	\$ 1,232,000	\$ 1,173,500	\$ 1,000,000	\$ 0	\$ 0	\$ 3,405,500
7. Construction	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
8. Other	\$ 54,650	\$ 60,115	\$ 66,127	\$ 0	\$ 0	\$ 180,892
9. Total Direct Costs (lines 1-8)	\$ 2,289,289	\$ 2,289,289	\$ 2,289,289	\$ 0	\$ 0	\$ 6,867,867
10. Indirect Costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
11. Training Stipends	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
12. Total Costs (lines 9-11)	\$ 2,289,289	\$ 2,289,289	\$ 2,289,289	\$ 0	\$ 0	\$ 6,867,867

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Standard Form 424B (Rev.7-97)

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management, and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States, and if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. "4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. "1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. '794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act
9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. "276a to 276a-7), the Copeland Act (40 U.S.C. '276c and 18 U.S.C. "874) and the Contract Work Hours and Safety Standards Act (40 U.S.C. " 327-333), regarding labor standards for federally assisted construction sub-agreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. "1451 et seq.); (f) conformity of Federal actions to State (Clear Air) Implementation Plans under Section 176(c) of the Clear Air Act of 1955, as amended (42 U.S.C. "7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93-523); and (h) protection of endangered species under the Endangered Species Act of 1973, as amended, (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. "1721 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance

of 1975, as amended (42 U.S.C. " 6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) " 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. " 290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. ' 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with the provisions of the Hatch Act (5 U.S.C. "1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. '470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. "469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. "2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. "4801 et seq.) which prohibits the use of lead- based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations and policies governing this program.

Signature of Authorized Certifying Representative:

Name of Authorized Certifying Representative: Sandy Garrett

Title: State Superintendent of Public Instruct.

Date Submitted: 12/02/2009

Disclosure of Lobbying Activities

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

1. Type of Federal Action: <input type="checkbox"/> Contract <input checked="" type="checkbox"/> Grant <input type="checkbox"/> Cooperative Agreement <input type="checkbox"/> Loan <input type="checkbox"/> Loan Guarantee <input type="checkbox"/> Loan Insurance		2. Status of Federal Action: <input checked="" type="checkbox"/> Bid/Offer/Application <input type="checkbox"/> Initial Award <input type="checkbox"/> Post-Award	3. Report Type: <input checked="" type="checkbox"/> Initial Filing <input type="checkbox"/> Material Change For Material Change only: Year: 0Quarter: 0 Date of Last Report:
4. Name and Address of Reporting Entity: <input checked="" type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier, if known: 0 Name: Sandy Garrett Address: 2500 N Lincoln Blvd City: Oklahoma City State: OK Zip Code + 4: 73105-4599 Congressional District, if known: 05		5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime: Name: Address: City: State: Zip Code + 4: - Congressional District, if known:	
6. Federal Department/Agency: U.S. Department of Education		7. Federal Program Name/Description: ED-GRANTS-072909-001 CFDA Number, if applicable: 84.384A	
8. Federal Action Number, if known:		9. Award Amount, if known: \$0	
10. a. Name of Lobbying Registrant (if individual, last name, first name, MI): Not Applicable Address: City: State: Zip Code + 4: -		b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI): Not Applicable Address: City: State: Zip Code + 4: -	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.		Name: Sandy Garrett Title: State Superintendent of Public Instruct. Applicant: Education (265) Oklahoma State Department of Education Date: 11/23/2009	
Federal Use Only:			Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements.

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal Loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance.

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee or any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

APPLICANT'S ORGANIZATION

Education (265) Oklahoma State Department of Education

PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

Prefix: First Name: Sandy Middle Name:
Last Name: Garrett Suffix:
Title: State Superintendent of Public Instruct.

Signature: Date:
12/02/2009

**SUPPLEMENTAL INFORMATION
REQUIRED FOR
DEPARTMENT OF EDUCATION GRANTS**

1. Project Director:

Prefix:	* First Name:	Middle Name:	* Last Name:	Suffix:
	Barbara		Roewe	

Address:

* Street1: 2500 N Lincoln Blvd

Street2:

* City: Oklahoma City

County: Oklahoma

* State: OK * Zip / Postal Code: 73105 * Country: USA

* Phone Number (give area code)	Fax Number (give area code)
(405)522-8198	(405)522-5121

Email Address:

BARBARA_ROEWE@SDE.STATE.OK.US

2. Applicant Experience

Novice Applicant ☐ Yes ☐ No ☐ Not applicable

3. Human Subjects Research

Are any research activities involving human subjects planned at any time during the proposed project period?

☐ Yes ☒ No

Are ALL the research activities proposed designated to be exempt from the regulations?

11 Yes Provide Exemption(s) #:

11 No Provide Assurance #, if available:

Please attach an explanation Narrative:

Attachment:

Title :

File :

Project Narrative

Project Narrative - Project Abstract

Attachment 1:

Title: **Project Abstract** Pages: **1** Uploaded File: **Project Abstract OKLDS.pdf**

Project Abstract

State Superintendent Sandy Garrett captured the essence of the need for these grant resources in the story of a child who moved from foster family-to-family, school-to-school, social service-to-service. Over the years, information about this individual did not get shared effectively to allow school counselors to ensure that the student enrolled in adequate courses to attain eligibility for Oklahoma scholarship assistance for higher education. This is an example of the need for agencies to coordinate their data and services to ensure this student and all others receive every benefit the State offers for their future.

Without the resources of this grant, all the standards, interoperability, infrastructure, processes, policies, and support to solve this one challenge and the thousands of similar ones our schools and other agencies face simply are not available. These grant resources will provide data-driven decision making to adequately support the growing needs of our children, students, and future workers. With the homeless growing by 11% in one year, 60% of births being funded by Medicaid, and the State reducing all agency budgets, Oklahoma needs Federal assistance to accomplish the pre-K through the workplace data coordination.

Six years ago, the original purpose of the Wave, Oklahoma's Statewide Student Information System, was to improve the quality of education for students in Oklahoma, reduce cycle time for providing data for use, reduce district state and federal reporting duplication, and to improve data quality and accountability. Oklahoma State Department of Education has built a PK-12 unique, real-time data collection system that collects via an automated Schools Interoperability Framework (SIF) event-driven system connecting all public school/charter district student information systems. Although that is a great start to the requirements for a P-20 Longitudinal Data System, this application will allow Oklahoma to expand the Wave's P-12 framework into an integrated data warehouse for the State Department of Education internally, as well as expand into a P-20 LDS in linking other agencies – such as additional pre-K Systems, Career and Technology Education, Higher Education and the Oklahoma Employment Security Commission.

The Oklahoma Longitudinal Data System (OKLDS) Project will support the improvement of teaching and learning in the classroom and build a decision support system leveraging multi-year data across agencies statewide that serve individuals from birth through the workplace. Supported by Oklahoma law, OKLDS will be Oklahoma's first federally supported effort that significantly enhances our own four SFSF assurances targeted by this application's components. Our State's early childhood agencies, workforce agencies, and higher education institutions join the State Department of Education (SDE) under this proposal to ensure all seven data system capabilities from ARRA are fully delivered. Our planning team was guided by the 12 data system elements from the America COMPETES Act at every step during the project design.

Oklahoma has not previously received state longitudinal data system grant monies. We are confident that Oklahoma can utilize the P20 LDS system built with these funds to engage a collaboration of agency educational reform by making the commitment and providing the leadership to go beyond politics. Oklahoma will draw upon successes in our current education systems. Please help Oklahoma, with our request for the SLDS grant, to gain the perspective, knowledge and the tools to advance.

Project Narrative

Project Narrative - Project Narrative

Attachment 1:

Title: **Project Narrative OKLDS** Pages: **30** Uploaded File: **Project Narrative OKLDS.pdf**

Project Narrative

(a) Need for Project

The Oklahoma State Department of Education (OSDE), with the assistance of the partners in the application planning process, first analyzed our needs; next aligned them with the four assurances, seven capabilities, and 12 elements; and finally established 12 components for the OKLDS project. An overarching goal is to improve the success of the teaching and learning process in the classroom. Each of the purposes was used to design a component for the OKLDS project. This provided a cohesive organization to the application and will ensure a foundation for the project management plan and the evaluation of the project.

The P-20 LDS is needed to consolidate data into a common system and establish a core information resource across the pre-K to workforce agencies that need to share data about individuals. The OSDE will lead this effort with the resources provided by the LDS grant. Commitments have been made by the participating entities that assisted in the planning of the application. These groups and the information areas they represent include the Oklahoma State Regents for Higher Education, Ed Trust, OJA, Military SASI, ACT(SAT), Career and Technology Education, Oklahoma Department of Employment Security Commission, Office of Accountability, Governor's Council for Workforce Analysis, Governor's Workforce Advisory Board, OK Promise Scholarship, Tulsa School PowerBook, Sooner Start, Smart Start Oklahoma, Parents as Teachers, Early Start, Children First, Birth-3 State Pilot, Oklahoma Partnership for School Readiness, Head Start (multiple programs), Child Plus, Students and Families, Offices of Juvenile Affairs, SB 222 P-20 Council, Oklahoma Association of Community Action Agencies, Oklahoma Commission on Children and Youth, Joint Oklahoma Information Network, Department of Human Services, and Oklahoma Department of Health. Within OSDE, the many programs and offices such as Special Education, Accreditation/Standards, Child Nutrition, Accountability and Assessments, Bilingual Education/Migrant Education, Lifelong Learning, Reading First, State Aid, School Personnel Records and others participated.

The Wave has deployed a longitudinal data system that represents a new technology standard in data collection and data warehousing. Please view Data Flow Chart – Current Status of OSDE LDS in Appendix A. The Wave is in the planning stages to pilot business intelligence tools for districts to not only report data seamlessly to the state, but for district staff to analyze data at the district level to include not only data contained in the Wave as mirrored live from their student information system, but also provide the mechanism for districts to virtually link district Wave information with databases housed at their districts utilizing the unique student identifier. Education improvement is the overall goal.

The Wave was branded, supported, and envisioned by the current State Superintendent of Public Instruction Sandy Garrett. The Wave is seeking to integrate other divisions within the OSDE to expand the data collection from district student information systems with requirements from state and federal reporting. The State Department of Education will also take the opportunity with the grant application to move beyond the Wave's P-12 system to put into place a P-20 system. The lessons learned throughout the past six years of investment with the Wave, and the funds available from this grant, will bring speed, success, data quality and data usage to the forefront of

education. Dynamic education reform may now begin that was never technologically possible before.

The Wave has met some requirements: a unique student identifier assigned to public and charter school students (662,237 assigned/validated as of 12/02/09 for the 2009-2010 school year); student level enrollment, exit, demographic, program participation, transfer, and drop-out information collected in real-time implementing validation rules; and a framework that has the capacity to link with other agencies by expanding the unique student identifier system.

The Wave has the capacity and determination to collect student information to tie to teacher information – and is devising a plan on how this information can be utilized for education reform such as predicting college readiness long before students are ready for college. Finally, the OSDE is firm on establishing a statewide longitudinal data system that is robust, expandable, dynamic and user-managed so that all agencies adequately prepare and educate their customers based on trends, research, and best practices.

OSDE manages all its major projects using PMI methodology and will engage a professional team of on-site management and content experts to ensure both the technical and process aspects of this grant are delivered successfully (Project Management Component). An external evaluation will be contracted to ensure professional guidance and objectivity (Evaluation Component). The Governance Component will create policy, procedures, standards, guidance groups, and coordination across the many different internal OSDE divisions and external statewide agencies that must cooperate and share data for success. The Standards Component is crucial to establishing and communicating the data definitions and interoperability foundations upon which the sharing of data can occur within a P-20 LDS. The Data Warehouse and P-20 LDS Component consolidate the data into a central data store with multiple data marts for access and use. The Wave Enhancements Component builds the capacity for OSDE to add additional data objects for collection from districts with student-record-level SIF collections. This component also builds the consolidated P-20 data warehouse for all P-to-workforce data. Pre-Kindergarten, Career and Technology and Workforce Components provide the support and upgrades required for those levels to contribute quality data to the P-20 LDS. The Higher Education Data Quality Improvement Component builds the capacity for postsecondary institutions to provide quality and timely data to the P-20 LDS for linkage with PK-12. The Electronic Records and Transcript Exchange Component provides for the sharing of critical student information among agencies which includes course and course grades. Finally, the Training and Support Component provides for the education, evaluation, and connection of all components to make education reform a reality.

The OSDE has coordinated the commitments from the pre-K, the Wave, higher education, and workforce agencies to ensure the success of the well-planned components proposed here. We have vetted these plans to determine that the outcomes and timelines are attainable.

Each of the 12 components in this application has been designed to address the challenge of meeting the combined needs and requirements of these partners while addressing all the assurances, components, and elements specified for a State Longitudinal Data Systems application.

Component 1: Project Management and Systems Integration

Purpose: To ensure that the activities funded by the grant are planned and implemented efficiently and effectively to accomplish the project outcomes and improve the teaching and learning effectiveness in Oklahoma classrooms.

Narrative for:

- Project Management
- Systems Integration

The review of other LDS grant recipients has provided Oklahoma with the insight that these SLDS grants present a challenge to an SEA to manage the significant infusion of resources, a sudden initiation of grant activities, and the continuation of all current demands of the systems and projects already active. The Oklahoma State Department of Education proposes to leverage expertise in managing the coordination for internal projects such as working with the Accountability and Assessment Office, Office of Accreditation and Standards, Data Services, Special Education, without disrupting the Wave's notable progress by engaging a professional project management team with experience and expertise specifically relevant for components in this grant. The expertise the OSDE will seek to balance internal resumes includes:

1. Higher education, workforce, and prekindergarten data standards alignment with PK-12;
2. SIF ETL and data exchange with other platforms and standards from Pre-K, workforce, and higher education for the P-20 longitudinal data system;
3. Process management to ensure coordination across all P-20 policy and methodology; and
4. Experience with P-20, USED, SIFA, PESC, NCES, NEDM, SCED, *EDFacts*, and the many other national standards and groups that impact the interoperability of the data that will reside within the P-20 longitudinal data system in the future.

Component 2: Data Warehouse and P-20 Longitudinal Data System

Purpose: To build and manage data stores that contain quality data that meet the demands for decision making. To process and deliver reports that are timely, usable and accurate. Please see Data Flow Chart – P20 LDS Reporting Model.

Narrative for:

- The Wave Data Warehouse and Data Marts
- The Oklahoma State Department of Education Data Warehouse Data Marts
- The Oklahoma P-20 Longitudinal Data System
- P-20 Decision Support System—Reporting

Oklahoma has established that we can build on our own viable data systems that collect, store and report data for decision making. The U.S. Chamber of Commerce, the Data Quality Campaign, and others give us good grades. However, grades reflect the capability to deliver, not necessarily the practice that is being performed or the needed resources to implement fully the capacity. This application provides the OSDE the opportunity to come together and set out in a single plan how the State of Oklahoma can build a P-20 longitudinal data system. We took to heart the seven required data system capabilities from the American Recovery and Reinvestment Act and brought together agencies statewide for discussion. We looked internally at ourselves to

see the need for linking student data, teacher data, certification data, performance data, quality data, and delivering data on to *EDFacts*. The 12 system elements from the America COMPETES Act were reviewed. In the end, all this met OSDE needs. All this met the design the OSDE proposes for the P-20 Longitudinal Data System described here as a consolidated data store compliant with Oklahoma state laws.

The Wave initiated the building of a robust data warehouse internal to OSDE. This model takes us well down the road in terms of modeling and design. The need for OSDE and the public schools is to finally have the resources to complete the collection and validation of the individual records submitted using SIF objects, including Oklahoma custom objects, through the Wave.

In the planning for this application, all the participating agencies cited their frustrations with having data but not having access to the data. Beginning to have multiple years of data, but not having an analysis tool for looking across years was disappointing. CPSI is currently contracted to provide analysis tools for the Wave, but the licensing and capacity will need to be expanded to include the other agencies, the districts, and the public. When the P-20 LDS is functioning, the emphasis will be on the need for reporting high quality and reliable information. Already the pressure with the planning for the Race to the Top design is for public access to information and access to data across all public agencies. Thus, a priority for OKLDS is definitely on providing access to data for decision making not only to the participating agencies, but also to researchers, business leaders, and policy makers.

The data warehouses and reporting functionality proposed in the OKLDS will open up access to the value that is now locked within the data spread across our schools, OSDE, higher education, pre-K services, and workforce agencies. The P-20 LDS should build the capacity for all stakeholders to use longitudinal data. Currently, the Wave has instituted the implementation of xDTools, which is a robust and easy to use Business Intelligence toolset and xDAdHoc for reporting and dashboards.

The current licensing does not allow for extensive use by stakeholders outside the OSDE, and only provides for limited functionality at the district level. The system has the capability to provide all the functionality required and requested by the various agency and district stakeholders. Part of this funding request will be used to extend the licensing and implementation of a Decision Support System for all stakeholders.

This toolset supports the development of early warning systems, growth models, and analysis tools using the longitudinal student data. The analysis will inform stakeholders, ultimately improving teaching and learning. It builds the capacity for all stakeholders to use longitudinal data for effective decision making.

The OKLDS emphasizes the role of a robust data system in planning processes for school improvement and for professional development activities. Teachers will have access to data to use for enhancing their teaching processes. The system supports and invests in the current advances in technology that will improve the efficiencies of data access, data analysis, and stakeholder communication.

Component 3: The Wave Enhancements

Purpose: To advance the SIF collection of PK-12 data in The Wave system to replace aggregate web collections; to provide enhanced support of school staff to provide quality data and to use data effectively. Please see Data Flow Chart – Wave Expansion in Appendix A.

Narrative for:

- The Wave Collection of New SIF Objects and Elements
- Enhancement of Operational Data Store and Data Validation Business Rules
- SIF Agent Test Platform
- Certified Submissions

The Wave is Oklahoma’s statewide student information system for PK-12. Every charter and public school sends data to the Oklahoma State Department of Education (OSDE) using an automated network relying upon a national standard for education data called the Schools Interoperability Framework (SIF). The data is published from the local student information system to the state’s operational data store without the need for human intervention. Each time a student’s information changes, the delta change is published to the state in real-time to update the Wave’s operational data store. The Wave is a state-of-the-art customized and secure electronic system that can be utilized for eliminating duplication of district reporting and accountability efforts, streamlining research and decision-making capabilities, and providing dynamic, accurate and reliable information.

Today’s challenge is to make the final transition to this automated process from the traditional one where districts currently prepare aggregate data reports and upload them via a web-based process to fulfill reporting requirements. The promise is that when this transition is complete, the savings in time and resources will be second only to the benefits gained in the quality of the data.

The Wave currently uses 12 SIF objects from release 2.0r1. State law mandates using the most current version of the SIF standard. Oklahoma is the only state who has worked directly with SIFA to provide and administer a specific state certification protocol that vendors are required to meet in addition to the SIF specification. This has provided for an increase in communication and coordination between the OSDE, vendor community and districts for compliance. SIF is becoming easier to use, and issues that previously existed are being resolved as more data collection needs are being incorporated as data requirements expand. A portion of this grant is an important part of our plan to improve the data accuracy sent via the SIF agents that are basic to the quality of our data exchanges.

The emphasis in Component 3 will allow the enhancement of the Wave to include new expanded SIF objects and extensions to current SIF objects in order to collect all of the data required by the state via a real-time SIF data model. It is important to collect data in real-time to give the districts a perspective on what is happening currently and on a day-to-day basis at their district in order to make timely decisions. The benefits of this expanded real-time data collection include: a) data is validated in real-time and districts are forced to correct the data at the source; b) principals, superintendents, and teachers can identify students that may be “falling through the

cracks” and take early action to remedy the problems; and c) by identifying problems early, stakeholders can track true progress and foster continuous program improvement.

The expansion of the data collection will require an expansion of the current Operational Data Store and the expansion of the validation rules currently implemented in the Wave. The Validation Rules engine used by the Wave associates and documents the action of each validation to a table, a field, and a report submission. Real-time data validation: a) maximizes the time to correct errors; b) reduces the time consumed in correcting errors and performing manual submissions; c) automates the error feedback loop to personnel entering and changing the data in the student information system (SIS); and d) enhances the quality of the data in the source application by forcing the change at the source and not a change in the file upload preventing data from being out of sync with reporting efforts.

SIF communication is mandated by law in Oklahoma. The Oklahoma SIF Profile will need to be expanded to include all of the required data objects and elements and to ensure that all SIS vendors in the state comply with the profile. The expansion of the Oklahoma SIF profile will require the Wave to work with all SIS vendors to ensure that they meet or exceed the requirements of the initiative. To this end, the Wave would like use awarded grant dollars to establish a Wave SIF Agent Test Lab. The lab will be put in place in order to test SIF agents before they go live on the Wave system. The Wave does not wish to “own” the applications or the SIF agents. Therefore, we propose to use funds to purchase hardware for the lab. Each vendor that contracts with school districts in Oklahoma must install, configure, and setup their application and SIF agent in the lab at no cost to the OSDE. It is planned that vendors would provide the personnel support for the applications and SIF agents for testing and diagnosing issues.

The OSDE will provide the ZIS and the Wave applications for this test bed, duplicating what is currently at the Wave. The applications and SIF agents will be tested in the pilot environment by the vendors. The Wave will develop criteria for testing and will ensure that all SIS vendors in the state meet the requirements for deploying their SIF agent in the production environment. Once the application and SIF agent have passed the tests, applications can be deployed in the production environment. Vendors not complying with Oklahoma law would not be considered Oklahoma Certified for installation and deployment to the Wave production system. Currently, when the Wave is unable to receive data from a district’s student information system, the vendor utilizes the live system as a “test bed”, wasting valuable district and OSDE staff resources. The Wave would prefer to provide the necessary “test bed” for the vendors to prevent this from occurring. It will become a valued service to the vendors as well, as they will be able to test their system before putting it into production.

The Wave will also develop a process for Certified Submissions by the districts. Since data is constantly flowing to the Wave in real-time, the Wave will provide a snapshot of data on a particular date for each reporting period. The responsible person at each district will login to the Wave web site, review their snapshot of data, and then certify that the submission is correct for that reporting period. If data is not correct, data must be changed to reflect the proper data at the source for creating a new snapshot and certification.

Component 4: Higher Education Data Quality Improvement

Purpose: To improve the quality and timeliness of postsecondary data to ensure validity for federal reporting, analysis, and sharing with PK-12.

Narrative for:

- Expansion and Enhancement of the Current Higher Education LDS
- Process Unique ID's for current students
- Update and Enhance Business Rules for Collection of Quality Data from Postsecondary Institutions
- Enhance and Expand the Methods of Data Collection
- Establish Higher Education Data Marts

Currently, Higher Education has a data collection model based on timely file uploads via a web interface. Data is validated during the upload process and stored in an operational data store. Data is then moved into the Higher Education LDS and reports are generated on that data. This model is currently functional and provides reporting needed by Higher Education.

Improving the quality of the postsecondary education data as the quantity, analysis, and use of our P-20 LDS data increases is paramount. The State Fiscal Stabilization Fund (SFSF), capabilities, and elements depend upon quality. A keystone component of our quality assurance design is the upgrade and expansion of the Higher Education data system.

The system must be upgraded for larger capacity and better data handling. The larger data amount that will be required for the P-20 LDS requires enhancements and upgrades to the current Higher Education LDS.

The Higher Education data system must also be expanded to provide the ability to submit current students for unique ID's so that longitudinal data can be managed across all systems. New incoming freshmen will have these ID's, but students that were not part of the Wave deployment will need to be associated with an ID for tracking purposes.

Since a large amount of toolsets are currently licensed by the OSDE, it will be easy to enhance the current Higher Education system by providing these tools for expanding the models of data collection to include: a) PESC standard data transmitted over web services; and b) NEDM data transmitted over web services.

The above-mentioned data collection methods will provide real-time data validation and feedback to each of the institutions using those methods. In the enhanced Higher Education data system, the data transmitted via batch files will be converted centrally into a standardized object model, such as PESC, and stored in the enhanced centralized ODS. Validation Rules (all levels) will be run against this data and the stakeholders will be notified via e-mail and through a web interface.

Currently, postsecondary institutions can send incorrect data, late data, and incomplete data to the Higher Education Commission. It is important that the business rules be expanded to allow postsecondary institutions to detect, analyze, and correct their data errors before certifying their

data to the Higher Education Commission. This ensures reliable, compliant data on which the Commission can apply level 3 business rules that analyze across submitting institutions, years, and programs' databases.

The next objective of Component 4 will be to develop the Higher Education data mart component, which will be housed as part of the P-20 LDS. The Higher Education data mart component will be managed and controlled by Higher Education. Access to the data will be decided upon by the P-20 management group.

The Higher Education Commission can leverage the current tools that will be utilized in the P-20 LDS to enhance and expand their system to meet the ever growing needs of reporting, research, and analysis.

Component 5: Electronic Records and Transcripts Exchange

Purpose: To establish a statewide system for electronic exchanges of student records and transcripts for PK-12 mobile students, high school to postsecondary applicants, and postsecondary transcripts reported back to high schools.

Narrative for:

- Electronic Records and Transcripts Exchange

Oklahoma's higher education institutions can receive images of transcripts from some local school district student information systems. The need, however, is for all high schools to be capable of sending not just images, but electronic records that can be directly imported into the postsecondary institution's system, and can be incorporated into the longitudinal data system as appropriate. In addition, the capacity to exchange electronic records allows for exchanges for mobile students across PK-12 schools and districts using the SIF SRE object and the existing SIF infrastructure built by the Wave.

Without the resources requested in this grant application and the coordination achieved through the grant's focus on the LDS' common data standards, the progress toward these electronic records exchange goals will continue to be at a very slow pace.

Component 6: Pre-Kindergarten Data Quality Improvement

Purpose: To establish common data standards across pre-kindergarten programs and services, and to create the capacity and processes for these agencies to share and use pre-K to the workforce data from the P-20 LDS effectively.

Narrative for:

- Data Definition and Consolidation Process Improvement
- Professional Development in Data Quality and Use of Data and Reports from P-20 LDS
- Addition of Data Objects and Elements for Pre-Kindergarten Data
- Process Unique ID's
- Technical Support for Provision of Data to P-20 LDS

The pre-kindergarten community in Oklahoma has disparate data and systems to manage their own data. There has not been a coordinated effort to align definitions and to establish common definitions that would allow for consolidation of these data into a central longitudinal data system. One objective is to establish a common client/student record that will facilitate the exchange of data for individuals when they make a transition from one pre-kindergarten service to another or when they move into the public school system. New ID's for birth to 3 would be assigned using the UID process.

Component 7: Workforce Data Quality Improvement

Purpose: To establish common data standards across workforce programs and services, and to create the capacity and processes for these agencies to share and use pre-K to the workforce data from the P-20 LDS effectively.

Narrative for:

- Data Definition and Consolidation Process Improvement
- Professional Development in Data Quality and Use of Data and Reports from P-20 LDS
- Addition of Data Objects and Elements for Workforce Data
- Technical Support for Provision of Data to P-20 LDS

The workforce community in Oklahoma has extensive data and systems to manage their own data. However, there has not been a coordinated effort to align definitions and to establish common definitions that would allow for consolidation of data into a central longitudinal data system. The Oklahoma Employment Security Commission will take the lead role on ensuring the confidentiality of individual information.

Component 8: Career and Technology Education Data Quality Improvement

Purpose: To establish common data standards across the Oklahoma Department of Career and Technology Education (ODCTE) programs and services, and to create the capacity and processes for these agencies to share and use career and technology student data from the P-20 LDS effectively.

Narrative for:

- Complete the development of the Careertech Education statewide student information system.
- Develop technology center and comprehensive school student information systems.
- Create a Careertech Education data warehouse that integrates student, staff, financial and facility data.
- Integrate the Wave unique identification numbers for secondary students.
- Implement the unique ID system for adult students.
- Establish real-time, interoperable data exchange capabilities (OSDE, OSRHE, OESC).
- Develop governance structures to guide data collection, sharing and use.

The ODCTE (Careertech) has a need to establish common data standards across its programs and services to foster improved data exchange with its state education and employment partners. These partners include the OSDE, the OSRHE, and the Employment Security Commission. To date, there has not been a coordinated effort to align the various data systems in use by these

entities, which has limited the ability to perform multi-agency, multi-year student achievement analysis via a centralized, statewide longitudinal data system. Careertech has identified several action items that need to be addressed to successfully satisfy its desire for improved multi-agency data quality and subsequent integration with Oklahoma's P-20 LDS. Rapid completion of Careertech's statewide and delivery arm student information systems is of prime importance. Additionally, Careertech will need to add capabilities to its student information systems to accommodate real-time data exchange, the integration of the Wave student testing numbers, and provide a solution for uniquely identifying its adult student population. Furthermore, Careertech desires to create a data warehouse repository that aggregates and integrates student, staff, financial and facility data supplied by its technology centers and comprehensive schools. Collectively, these suggested improvements will provide Oklahoma's key stakeholders with robust, actionable intelligence by which they may evaluate student successes related to student achievement, educational transitions and/or employment.

The ODCTE data system must also be expanded to provide the ability to submit adult students for unique ID's so that longitudinal data can be managed across all systems. Current students in common education will have these ID's, but students that are not part of the Wave deployment will need to be associated with a unique ID for tracking purposes.

Component 9: Governance

Purpose: To create an information systems architecture and data access and management policy to guide the OKLDS Project and the management of the P-20 LDS.

Narrative for:

- Information Architecture (IA)
- Process Flow Diagram
- Data Access and Management Policy

The OKLDS grant brings into play a technology infrastructure and management process that requires policies, standards, coordination among agencies, and program evaluation. Each of the participating agencies from pre-K through the workforce has internal policies that must align with the common processes to be designed and implemented for consolidating data into the P-20 OKLDS. A memorandum of understanding will be signed between State Superintendent of Public Instruction Sandy Garrett and the Oklahoma State Regents for Higher Education Chancellor Glen D. Johnson to formalize the management that will guide the implementation of the P20 LDS.

In 2004, the Oklahoma State Department of Education (OSDE) completed a comprehensive study of its information system and established a vision for what is now The Wave and the emerging data warehouse. Now the vision spans P-20, and the architecture and policies must consider agencies beyond OSDE and the Wave. An updated Information Architecture (IA) is needed at OSDE to bring together into a single resource guide all the policies, regulations, procedures, references, standards, processes, templates, specifications, etc. that must be consolidated and followed to make the proposed LDS function within the agency and the expanded P-20 environment around it. As a process to ensure the successful integration and coordination of all the components, offices, agencies, vendors, districts, institutions of higher

education, and individuals partnering on this LDS grant, the IA will provide a common guide and a necessary point of documentation for all standards, requirements, and processes. To assist in understanding all the components that interact within the agency, a detailed data flow and process map will be created to describe how data are collected, stored, and accessed across all offices and programs within the OSDE. Going forward, we must complete a comprehensive review of all policies and mandates to ensure that everything is up to date with changes that have occurred and that all the changes have been accommodated within the LDS design. In addition, we must provide clear guidance to educators and the public on our policies and procedures implemented to ensure the confidentiality of student data.

Component 10: Standards

Purpose: To establish common data standards to ensure interoperability and comparability for the exchange of data for the P-20 LDS; to manage the metadata standards for OSDE; to create a crosswalk of OSDE and local district course catalogs to SCED; and to re-engineer OSDE's *EDFacts* reporting process as the transition from aggregate web collections to the unit-record data from The Wave's SIF collections is completed.

Narrative for:

- Enterprise Metadata Dictionary
- *EDFacts* Analysis and Federal Reporting
- Course Catalog

An enterprise metadata dictionary is a foundational component that must be formalized and consolidated from the separate dictionaries that are now maintained throughout the agency and across the pre-kindergarten, higher education, and workforce agencies that are to interoperate using this LDS grant. Within the OSDE, the Wave has developed standard definitions around the SIF standard. Creating a consolidated P-20 LDS will require significant work to standardize pre-kindergarten, higher education, and workforce data definitions and codes. This will be needed not only for the ETL processes, but also for analyses and reporting purposes. The four assurances from the State Fiscal Stabilization Fund (SFSF), and the seven capabilities and 12 elements from the American Competes Act for our LDS system all require a sustainable policy, process, and on-line application to access and manage our data definitions and align them to the emerging and changing national standards and requirements (e.g., *EDFacts*, SIF, NEDM, SCED, IPEDS, PESC, etc.). An enterprise metadata dictionary provides the capacity to produce gap analysis reports for requirements such as *EDFacts*.

To improve the number of submission files the agency is providing to *EDFacts* as required for SFSF assurances, we need to engage contracted services to map our authoritative data sources to the *EDFacts* required data elements. Using the current licensed software, data can be converted into standard SIF-based XML, reports created in the required USDOE formats, and automated submissions can be generated. These contracted services will allow us to fully meet the data submission requirements as we build the capacity to provide all of the data directly from the OSDE Wave LDS.

Meeting the requirements for matching teachers and students and reviewing quality of students' educational programs will require OSDE to enhance our course catalog. The NCES SCED

course classification system and the LDS grant will provide the resources to provide a mapping process using our currently licensed software to automate the process for LEAs to convert their local course catalogs to this common course classification system, then for the OSDE to make the conversion of State course numbers to SCED. The OSDE is currently licensed for this software, but the licensing will need to be expanded to include all of the additional processes.

Component 11: Evaluation

Purpose: To provide an objective external evaluation for continuous improvement and accountability for the OKLDS Project.

Narrative for:

- External Evaluation

The OSDE recognizes the need for an external perspective on our progress and has designed a component for ongoing contracted evaluation services. A team of professionals who have been deeply involved in the design of SEA, LEA, and USED data standards and information systems is needed to monitor our progress with this grant, to assist in our preparation of progress reports, and to advise us as we encounter implementation issues with districts, vendors, and our own internal resources.

The contractor will work with Oklahoma to determine the evaluation criteria and how the indicators and outcomes will be monitored during the project by IES/USED. Together we will develop action reports against these indicators. The external evaluation services will assist us as an early warning system if the project is getting off track.

Component 12: Training and Support

Purpose: To provide continuous training to district superintendents, principals, data entry and support staff, counselors, teachers, and others.

Narrative for:

- Application, Administrative, and Technical Training
- Development of a P-20 LDS Test Lab
- Technical Support

Currently, the OSDE has a small support staff that acts as Level One and Level Two support and provides training for the Wave. Fundamental to the operation of an LDS on a state-wide level is having the proper individuals trained extensively in the use of the software and processes in order to provide training and support to the end users. CPSI acts as Level Three support and becomes part of the Levels One and Two support team as required, such as when school starts each year.

The OSDE is currently licensed to allow district-level users the ability to use the Decision Support Software in a limited functionality. If awarded funding for training and support, an extension of the Decision Support System (xDTools and xDAdHoc) for extensive usage licensing will be provided to all stakeholders and agencies involved in the OKLDS project.

In order to support the large number of users on the system, we propose to hire a team of support professionals that are part of the OSDE staff. This team would be responsible for training and supporting stakeholders at the local school district level, as well as other State agencies, on the Decision Support System as well providing knowledge in the area of data collection and validation. These individuals will act as Level One and Level Two support for all stakeholders, both district and state-based. CPSI will remain as Level Three support for the products.

XML (Extensible Markup Language) has emerged as the leading standard for data interchange between applications and between organizations. Contracted XML training will be provided where agency attendees will learn the core fundamentals of XML and its related technologies: XML, XSL, DTD, XML Schema, XPath, and more. XML is an essential technology for anyone working with data.

We also envision the development of a Test Lab in order to test the entire P-20 LDS. The test lab can be comprised of virtual servers and/or physical servers. A full time OSDE employee will be hired to manage the Test Lab. The purpose of this Test Lab is to:

1. Ensure that all data is properly extracted and mapped: data mapping testing; data standards testing; data crosswalk testing; data validation rules testing
2. Ensure that the proper security is in place
3. Ensure that cubes are tested and reviewed for reports
4. Ensure that reports are tested and verified by the agencies
5. Ensure that dashboards are tested for usability, security, and validity
6. Ensure consistency in code sets across the various agencies

(b) Project Outcomes Related to System Requirements and Implementation

Component 1: Project Management and Systems Integration

- 1.1. Develop a Project Initiation Phase following PMI methodology.
- 1.2. Conduct the Project Planning Phase including the development of the Project Plan, Resource Plan, Financial Plan, Quality Plan, Risk Plan, Acceptance Plan, Communication Plan, and the Procurement Plan; contracting the vendors; and a Planning Phase Review.
- 1.3. Conduct the Project Execution Phase.
- 1.4. Conduct the Project Closure Phase.
- 1.5. Produce quarterly executive reviews with recommendations for actions.

Component 2: Data Warehouse and P-20 Longitudinal Data System

- 2.1. Design, build, and deploy the Wave data warehouse enhancements necessary to accommodate the new SIF and custom elements and objects collected.
- 2.2. Design, expand, and deploy the Wave LDS to add the additional internal OSDE data sources and to improve access to internal stakeholders.
- 2.3. Design the data marts that represent the OSDE components as listed in Appendix A “Oklahoma Data Collections and Efforts”

- 2.4. Expand the current student identifier system to link pre-K, workforce, and higher education systems to the P-20 LDS.
- 2.5. Design the data marts for the various organizations represented in the P-20 LDS data warehouse (designed by each participating agency).
- 2.6. Integrate and centralize the data marts to create the P-20 LDS data warehouse with the data necessary for analysis and reporting.
- 2.7. Expand upon and fully license xDTools and xDAdHoc (currently licensed for the Wave stakeholders only) as a query and reporting system (decision support system) for the agencies.
 - 2.7.1. Extend the licensing of xDTools and xDAdHoc to all LEA's and State agencies.
 - 2.7.2. Develop the decision support data cubes for use by LEA's and state agencies.
- 2.8. Implement security so that stakeholders only see the data relevant to them.
- 2.9. Develop and deploy various data dashboards

Component 3: The Wave Enhancements

- 3.1. Incorporate new SIF and custom Objects and elements into The Wave to expand the data collection for full reporting and analysis.
- 3.2. Expansion of the ODS to include new data.
- 3.3. Expansion of the Validation Rules to ensure the accuracy of the new data collections.
- 3.4. Enhance and expand upon the Oklahoma SIF Profile.
- 3.5. Build The Wave SIF Agent test lab to improve data quality throughout the SIF data exchange process. Vendors must participate to be allowed to deploy into the production environment.
- 3.6. Implement a process for districts to certify data collections for each reporting period.

Component 4: Higher Education Data Quality Improvement

- 4.1. Expand and enhance the current higher education LDS to include new data objects.
- 4.2. Process Unique ID's for current students, either by assigning a new Unique ID or by matching a student with a current Unique ID issued from the Wave.
- 4.3. Update and enhance the current LDS business rules for the collection of quality data from the postsecondary institutions.
- 4.4. Enhance and expand methods of data collection to allow for automated collections.
- 4.5. Build the Higher Education Data Marts.
- 4.6. Expand the web user interface that will help the postsecondary institutions understand and troubleshoot their data errors so they can fix the data at the source for automatic re-submission and the ultimate submission of error-free data.

Component 5: Electronic Records and Transcripts Exchange

- 5.1. Analyze and design a system for electronic records and transcript exchange.
- 5.2. Implement a system for electronic records and transcript exchange.

Component 6: Pre-Kindergarten Data Quality Improvement

- 6.1. Develop data standards among the pre-kindergarten services and programs; establish the process for data exchange; and coordinate training.
- 6.2. Implement the methodology for data collection including validation processes.

- 6.3. Implement a Data Mart for Pre-Kindergarten.
- 6.4. Process Unique IDs.

Component 7: Workforce Data Quality Improvement

- 7.1. Develop data standards among the workforce services and programs; establish the process for data exchange; coordinate training.
- 7.2. Implement a Data Mart for Workforce.

Component 8: Career and Technology Education Data Quality Improvement

- 8.1. Develop data standards among the Career and Technology Education services and programs; establish the process for data exchange; coordinate training.
- 8.2. Collect data.
- 8.3. Implement a Data Mart for Career and Technology Education.
- 8.4. Process Unique IDs for adult students that are in addition to the P-12 students.

Component 9: Governance

- 9.1. For OSDE and OKLDS, produce a sustainable, published reference document with all policies, processes, documents, and other guidelines identified in an Information Architecture.
- 9.2. For OSDE and OKLDS, develop a process flow diagram detailing the relationships among data collections, repositories, and outputs, and identifying the stewards and offices responsible for each.
- 9.3. For OSDE and OKLDS, develop a policy guide document consolidating laws, regulations, guidelines, policies, etc. related to the collection, storage, access, use, and destruction of data in a formal Data Access and Management Policy.

Component 10: Standards

- 10.1. Expand the online metadata dictionary with statewide standard definitions and codes aligned with national standards.
- 10.2. Provide maximum content, high-quality *EDFacts* submissions from the authoritative data sources.
- 10.3. Develop a statewide course classification system aligned with SCED capable of meeting the requirements for matching teachers and students, measuring academic growth, and assisting in the improvement of struggling schools.

Component 11: Evaluation

- 11.1. Publish external evaluation reports.
- 11.2. Conduct monthly formal status reports for the agency executive team and IES oversight manager.
- 11.3. Conduct quarterly reviews and provide recommendations for actions based upon a formal project plan and schedule review.
- 11.4. Produce an annual evaluation report on the project's goals and objectives.

Component 12: Training and Support

- 12.1. Hire a team of trainers and support professionals for supporting the various SLDS systems for both LEA's and other state agencies.

- 12.2. Ensure that these “trainers” are well trained in the use of the software.
- 12.3. Provide training sessions throughout the year and in various locations to support the various applications that comprise the P-20 LDS.
- 12.4. Provide Levels One and Two technical support for the LEA’s and the state agencies.
- 12.5. Provide technical training for those users responsible for the data management.
- 12.6. Develop and implement a P-20 LDS Test Lab.

(c) Timeline for Project Outcomes

Outcome	Subtask	Initiation Date	Completion Date	Responsible Party
<u>Component 1: Project Management and Systems Integration</u>				
1.1 Project Initiation				
	Establish Project Charter	Year 1, Month 1	Year 1, Month 1	Consultant/Internal
	Appoint Project Team	Year 1, Month 1	Year 1, Month 2	Consultant/Internal
	Setup Project Office	Year 1, Month 1	Year 1, Month 3	Consultant/Internal
	Initiation Phase Review	Year 1, Month 3	Year 1, Month 3	Consultant/Internal
1.2 Project Planning				
	Develop Project, Resource, Financial, Risk, and Quality Plan	Year 1, Month 4	Year 1, Month 9	Consultant/Internal
	Develop Communication, Acceptance, and Procurement Plan	Year 1, Month 4	Year 1, Month 9	Consultant/Internal
	Contract the Vendors	Year 1, Month 6	Year 1, Month 11	Internal
	Planning Phase Review	Year 1, Month 11	Year 1, Month 11	Internal
1.3 Project Execution				
	Build and/or acquire deliverables	Year 1, Month 4	Year 3, Month 12	Consultant/Internal
	Monitor and Control	Year 1, Month 4	Year 3, Month 12	Consultant/Internal
	Time and Cost Management	Year 1, Month 4	Year 3, Month 12	Consultant/Internal
	Quality and Change Management	Year 1, Month 4	Year 3, Month 12	Consultant/Internal
	Risk and Issue Management	Year 1, Month 4	Year 3, Month 12	Consultant/Internal
	Procurement, Acceptance, and	Year 1, Month 4	Year 3, Month 12	Consultant/Internal

Outcome	Subtask	Initiation Date	Completion Date	Responsible Party
	Communication Management			
	Execution Phase Review	Year 1, Month 4	Year 3, Month 12	Consultant/Internal
1.4 Project Closure				
	Perform Project Closure	Year 3, Month 9	Year 3, Month 12	Consultant/Internal
	Review Project Completion	Year 3, Month 9	Year 3, Month 12	Consultant/Internal
	Create Lessons Learned	Year 3, Month 9	Year 3, Month 12	Consultant/Internal
1.5 Quarterly Executive Reviews				
	Perform Quarterly Executive Review	Year 1, Month 3	Year 3, Month 12	Consultant/Internal
<u>Component 2: Data Warehouse and P-20 Longitudinal Data System</u>				
2.1 Expand The Wave Data Warehouse				
	Identify Data Objects and Elements	Year 1, Month 4	Year 1, Month 7	CPSI and Internal
	Design and Build the Data Collection	Year 1, Month 7	Year 1, Month 9	CPSI and Internal
	Deploy Data Collection	Year 1, Month 7	Year 1, Month 12	CPSI and Internal
2.2 Expand the Wave LDS with Additional Internal OSDE Data Sources				
	Identify Data Objects and Elements	Year 1, Month 4	Year 1, Month 7	CPSI and Internal
	Design and Build Data Collection	Year 1, Month 7	Year 1, Month 9	CPSI and Internal
	Deploy Data Collection	Year 1, Month 7	Year 1, Month 12	CPSI and Internal
2.3 Design and Deploy OSDE Wave LDS Data Marts				
	Data Mart Design	Year 1, Month 7	Year 1, Month 9	CPSI and Internal
	Deploy Data Marts	Year 1, Month 9	Year 1, Month 12	CPSI and Internal
2.4 Expand the Student Identifier System to Link Agencies				
	Link Pre-K, Workforce	Year 1, Month 4	Year 2, Month 4	CPSI and Internal
	Link Higher Education	Year 1, Month 4	Year 2, Month 4	CPSI and Internal
	Link Career Education	Year 1, Month 4	Year 2, Month 4	CPSI and Internal
2.5 Design the Data Marts for Organizations Represented in the P-20 LDS				
	Design P-20 LDS Data Mart for the Wave	Year 1, Month 9	Year 1, Month 12	CPSI and Internal
	Design P-20 LDS Data Mart for Higher	Year 1, Month 9	Year 1, Month 12	CPSI and Internal

Outcome	Subtask	Initiation Date	Completion Date	Responsible Party
	Education			
	Design P-20 LDS Data Mart for Pre-Kindergarten and Workforce, and Career Tech	Year 1, Month 9	Year 1, Month 12	CPSI and Internal
2.6 Integrate and Centralize Data Marts to Create P-20 LDS				
	Integrate Data Marts	Year 2, Month 1	Year 2, Month 4	CPSI and Internal
	Centralize Data Marts	Year 2, Month 1	Year 2, Month 4	CPSI and Internal
2.7 Expand Decision Support System Licensing				
	Extend the Licensing of xDTools and xDAdHoc to LEA's and Agencies	Year 1, Month 4	Year 1, Month 4	CPSI and Internal
	Develop Decision Support Cubes	Year 1, Month 5	Year 2, Month 5	CPSI and Internal
2.8 Implement Security				
	Define Roles and Access	Year 1, Month 5	Year 1, Month 10	Consultant/Internal
	Implement Roles and Access	Year 1, Month 5	Year 1, Month 12	Consultant/Internal
	Add Users	Year 1, Month 5	Year 2, Month 6	Consultant/Internal
2.9 Develop and Deploy Data Dashboards				
	Develop Agency, OSDE, and Other Dashboards	Year 2, Month 3	Year 2, Month 6	CPSI and Internal
	Deploy Agency, OSDE, and Other Dashboards	Year 2, Month 6	Year 2, Month 7	CPSI and Internal
<u>Component 3: The Wave Enhancements</u>				
3.1 Incorporate New Data Objects for The Wave.				
	Incorporate New SIF/ Custom Data	Year 1, Month 3	Year 1, Month 3	CPSI and the Wave
	Expand Data Collection	Year 1, Month 9	Year 1, Month 9	CPSI and the Wave
3.2 Expand the ODS at the Wave				
	Add New Data	Year 1, Month 3	Year 1, Month 6	CPSI/the Wave
	Populate ODS	Year 1, Month 6	Year 1, Month 9	CPSI/the Wave
3.3 Expand Validation Rules				
	Develop and Test Validation Rules	Year 1, Month 3	Year 1, Month 9	CPSI and the Wave
3.4 Expand the Oklahoma SIF Profile				
	Work with SIFA to	Year 1, Month 4	Year 1, Month	CPSI, the Wave,

Outcome	Subtask	Initiation Date	Completion Date	Responsible Party
	Expand the SIF Profile		10	and SIFA
	Coordinate with SIFA to Create Testing	Year 1, Month 10	Year 2, Month 3	The Wave and SIFA
3.5 Implement the Wave SIF Agent Test Platform.				
	Build the Test Platform	Year 1, Month 3	Year 1, Month 6	CPSI and the Wave
	Vendors Install SIS Applications	Year 1, Month 6	Year 2, Month 1	CPSI and the Wave
	Test Applications	Year 1, Month 7	Year 2, Month 2	CPSI and the Wave
3.6 Implement Certified Submissions Process				
	Develop Web Site for Certified Submissions	Year 1, Month 3	Year 1, Month 7	CPSI and the Wave
	Create Certified Submission Process	Year 1, Month 3	Year 1, Month 7	CPSI and the Wave
	Test Submissions	Year 1, Month 7	Year 1, Month 10	CPSI and the Wave
	Implement Certified Submission Process	Year 1, Month 10	Year 1, Month 12	CPSI and the Wave
<u>Component 4: Higher Education Data Quality Improvement</u>				
4.1 Expand and Enhance the Current LDS				
	Develop Enhancements to and Expand LDS	Year 1, Month 6	Year 1, Month 12	Consultant/Internal
4.2 Process Unique ID's				
	Assign New UID's for Current Students	Year 1, Month 6	Year 1, Month 12	CPSI and Internal
	Match Students with UID's	Year 1, Month 9	Year 1, Month 12	CPSI and Internal
4.3 Enhance Current LDS Business Rules				
	Update Higher Education Business Rules	Year 1, Month 6	Year 2, Month 12	Consultant/Internal
	Implement Expanded Higher Education Business Rules	Year 1, Month 12	Year 2, Month 12	Consultant/Internal
4.4 Enhance Methods of Data Collection				
	Develop Additional Methods for Data Collection	Year 2, Month 3	Year 2, Month 9	Consultant/Internal
	Deploy Additional Methods for Data Collection	Year 2, Month 9	Year 2, Month 12	Consultant/Internal

Outcome	Subtask	Initiation Date	Completion Date	Responsible Party
4.5 Build the Higher Education Data Marts				
	Design the Data Marts	Year 1, Month 6	Year 1, Month 12	Consultant/Internal
	Integrate Data Marts	Year 2, Month 1	Year 2, Month 6	Consultant/Internal
4.6 Expand the Web User Interface for Data Errors				
	Additional Web Interface Development			Consultant/Internal
<u>Component 5: Electronic Records and Transcripts Exchange</u>				
5.1 Design and Procure an Electronic Records and Transcript Exchange System.				
	Analysis and Design	Year 1, Month 9	Year 1, Month 12	Consultant (RFP) and Internal
	Procurement	Year 1, Month 9	Year 1, Month 12	Consultant (RFP) and Internal
5.2 Implement an Electronic Records and Transcript System				
	Implement System	Year 2, Month 1	Year 2, Month 9	Consultant (RFP) and Internal
	Test System	Year 2, Month 9	Year 2, Month 12	Consultant (RFP) and Internal
<u>Component 6: Pre-Kindergarten Data Quality Improvement</u>				
6.1 Develop Pre-Kindergarten Data Standards, Processes				
	Analysis/Development of Data Standards	Year 1, Month 6	Year 1, Month 9	Consultant and Internal
	Analysis/Development of Processes	Year 1, Month 9	Year 1, Month 12	Consultant and Internal
6.2 Implementation of Data Collection				
	Implement and Test Data Collection	Year 1, Month 9	Year 1, Month 12	CPSI and Internal
6.3 Implement Data Marts				
	Implement Data Marts	Year 2, Month 3	Year 2, Month 6	CPSI and Internal
	Test Data Marts	Year 2, Month 6	Year 2, Month 8	CPSI and Internal
6.4 Process Unique IDs				
	Assign Unique IDs	Year 1, Month 9	Year 1, Month 12	CPSI and Internal
<u>Component 7: Workforce Data Quality Improvement</u>				
7.1 Develop Workforce Data Standards, Processes, and Training.				
	Analysis/development	Year 1, Month 6	Year 1, Month 12	Internal
	Delivery/implement	Year 2, Month 1	Year 2, Month 3	Internal
	Technical Support	Year 3	Year 3	Internal
7.2 Implement and Integrate the Workforce Data Mart				

Outcome	Subtask	Initiation Date	Completion Date	Responsible Party
	Implement Data Mart	Year 2, Month 1	Year 2, Month 3	CPSI and Internal
	Test Data mart	Year 2, Month 3	Year 2, Month 4	CPSI and Internal
<u>Component 8: Career and Technology Education Data Quality Improvement</u>				
8.1 Develop Career and Technology Education Data Standards, Processes				
	Analysis/Development of Data Standards	Year 1, Month 6	Year 1, Month 9	Internal
	Analysis/Development of Processes	Year 1, Month 9	Year 1, Month 12	Internal
8.2 Implementation of Data Collection				
	Implement and Test Data Collection	Year 1, Month 9	Year 1, Month 12	CPSI and Internal
8.3 Implement Data Marts				
	Implement Data Marts	Year 2, Month 3	Year 2, Month 6	CPSI and Internal
	Test Data Marts	Year 2, Month 6	Year 2, Month 8	CPSI and Internal
8.4 Process Unique IDs				
	Process Unique IDs	Year 1, Month 9	Year 1, Month 12	CPSI and Internal
<u>Component 9: Governance</u>				
9.1 Develop an Information Architecture.				
	Gather references	Year 1, Month 3	Year 1, Month 5	Consultant/Internal
	Interview staff	Year 1, Month 5	Year 1, Month 7	Consultant/Internal
	Draft IA	Year 1, Month 7	Year 1, Month 8	Consultant/Internal
	Finalize IA	Year 1, Month 8	Year 1, Month 8	Consultant/Internal
	Review and update	Year 1, Month 9	Year 1, Month 12	Consultant/Internal
	Review and update	Year 2, Month 1	Year 2, Month 12	Consultant/Internal
	Review and update	Year 3, Month 1	Year 3, Month 12	Consultant/Internal
9.2 Develop an Information Systems Process Flow Diagram.				
	Interview data source owners	Year 1, Month 3	Year 1, Month 5	Consultant/Internal
	Develop draft diagram	Year 1, Month 5	Year 1, Month 7	Consultant/Internal
	Finalize diagram	Year 1, Month 7	Year 1, Month 7	Consultant/Internal
9.3 Develop a Data Access and Management Policy.				
	Gather all references	Year 1, Month 3	Year 1, Month 5	Consultant/Internal
	Interview staff	Year 1, Month 5	Year 1, Month 7	Consultant/Internal
	Draft document	Year 1, Month 7	Year 1, Month 9	Consultant/Internal
	Finalize document	Year 1, Month 9	Year 1, Month 9	Consultant/Internal
	Review and revise document	Year 2, Month 5	Year 2, Month 5	Consultant/Internal

Outcome	Subtask	Initiation Date	Completion Date	Responsible Party
	Review and revise	Year 3, Month 5	Year 3, Month 5	Consultant/Internal
<u>Component 10: Standards</u>				
10.1 Expand the Enterprise Metadata Dictionary.				
	Gather documentation	Year 1, Month 3	Year 1, Month 8	CPSI and Internal
	Analyze data for metadata	Year 1, Month 4	Year 1, Month 10	CPSI and Internal
	Update and expand metadata dictionary	Year 1, Month 5	Year 1, Month 11	CPSI and Internal
	Review and maintain	Year 2, Month 1	Year 2, Month 12	Internal
	Review and maintain	Year 3, Month 1	Year 3, Month 12	Internal
10.2 Automate ED <i>Facts</i> Reporting.				
	Identify authoritative sources for data	Year 1, Month 3	Year 1, Month 5	CPSI and Internal
	Enter data sources and map to ED <i>Facts</i>	Year 1, Month 6	Year 1, Month 12	CPSI and Internal
	Provide ED <i>Facts</i> Map & Gap Analysis Report	Year 1, Month 7	Year 1, Month 7	CPSI and Internal
	Plan access to additional source data	Year 1, Month 8	Year 1, Month 10	CPSI and Internal
	Create the ED <i>Facts</i> Data Mart; map data sources into the reporting data mart	Year 1, Month 11	Year 2, Month 3	CPSI and Internal
	Continue enhancement of ED <i>Facts</i> reporting	Year 2, Month 3	Year 2, Month 12	CPSI and Internal
	Continue enhancement of ED <i>Facts</i> reporting	Year 3, Month 1	Year 3, Month 12	CPSI and Internal
10.3 Develop a Statewide SCED Course Classification System.				
	Design mapping from current to SCED	Year 1, Month 9	Year 1, Month 11	Consultant/Internal
	Coordinate with LEA systems	Year 1, Month 11	Year 2, Month 3	Consultant/Internal
	Map OSDE course numbers to SCED	Year 2, Month 3	Year 2, Month 6	Consultant/Internal
	Begin mapping to LEA courses	Year 2, Month 6	Year 2, Month 8	Consultant/Internal
	Complete mapping and load processes	Year 2, Month 8	Year 2, Month 9	CPSI and Internal

Outcome	Subtask	Initiation Date	Completion Date	Responsible Party
<u>Component 11: Evaluation</u>				
11.1 Obtain External Evaluation Reports				
	Deliver Monthly status report	Year 1, Month 1	Year 1, Month 12	Consultant
	Deliver quarterly reviews	Year 1, Months 3, 6, 9, and 12	Year 1, Month 12	Consultant
	Deliver annual evaluation report	Year 1, Month 12	Year 1, Month 12	Consultant
	Deliver monthly status report	Year 2, Month 1	Year 2, Month 12	Consultant
	Deliver quarterly reviews	Year 2, Months 3, 6, 9, and 12	Year 2, Month 12	Consultant
	Deliver annual evaluation report	Year 2, Month 12	Year 2, Month 12	Consultant
	Deliver monthly status report	Year 3, Month 1	Year 3, Month 12	Consultant
	Deliver quarterly reviews	Year 3, Months 3, 6, 9, and 12	Year 3, Month 12	Consultant
	Deliver annual evaluation report	Year 3, Month 12	Year 3, Month 12	Consultant
<u>Component 12: Training and Support</u>				
12.1 Application Training				
	Hire trainers and support professionals	Year 1, Month 11	Year 1, Month 11	Internal
	Train the Trainers	Year 1, Month 11	Year 2, Month 3	CPSI, Consultant and Internal
	Training Sessions for LEAs	Year 2, Month 4	Year 3, Month 12	Internal
	Training Sessions for Agencies	Year 2, Month 4	Year 2, Month 5	Internal
12.2 Administrative Training				
	CPSI will provide training for system administrators	Year 1, Month 4 (Periodic Training)	Year 2, Month 6 (Periodic Training)	CPSI and Internal
	Other vendors will provide training for system administrators	Year 1, Month 4 (Periodic Training)	Year 2, Month 6 (Periodic Training)	Consultant and Internal
12.3 Technical Training				
	XML Training	Year 1, Month 6	Year 1, Month 7	Consultant
12.4 Development of a P-20 LDS Test Lab				
	Ensure all data is tested	Year 1, Month 4	Year 3, Month	Internal

Outcome	Subtask	Initiation Date	Completion Date	Responsible Party
	and mapped		12	
	Ensure that the proper security is in place	Year 1, Month 4	Year 3, Month 12	Internal
	Ensure that cubes are tested and reviewed	Year 1, Month 4	Year 3, Month 12	Internal
	Ensure that dashboards are tested for usability, security, and validity	Year 1, Month 4	Year 3, Month 12	Internal
	Ensure consistency in code sets across the various agencies	Year 1, Month 4	Year 3, Month 12	Internal
12.5 Technical Support				
	Technical Support for LEAs	Year 2, Month 4	Year 3, Month 12	Internal
	Technical Support for Agencies	Year 2, Month 4	Year 3, Month 12	Internal

(d) Project Management and Governance Plan

The review of other LDS grant recipients has provided Oklahoma with the insight that these SLDS grants present a challenge to an SEA to manage the significant infusion of resources, a sudden initiation of grant activities, and the continuation of all current demands of the systems and projects already active. The Oklahoma State Department of Education proposes to leverage our expertise in managing our internal projects such as the Wave, Statewide Assessment, and Accreditation without disrupting their notable progress by employing a project management team and Project Executive to manage the activities related to the LDS grant.

The OSDE feels that the project management team, and Project Executive, must be internal in order to provide the best interaction between the project teams and agencies involved, and to be available all day every day to answer questions from the various agencies. The expertise we will seek with this new Project Executive and project management team will balance our internal resumes and will include:

1. PMP Certification;
2. Experience with data standards alignment to ensure a standard between Higher Education, Workforce, Career and Technical Education, and Pre-Kindergarten data with the Wave LDS, which will ultimately expand to the P-20 LDS;
3. Knowledge of SIF processes;
4. ETL and data warehouse experience for the exchange of data with other platforms and standards;
5. Process management to ensure the coordination across all P-20 policy and methodology;
6. Experience with national data standards and groups that impact the interoperability of the data that will reside within the P-20 LDS in the future; and
7. Aptitude to ensure that the person understands new technologies being deployed.

A few requirements that the project management team must meet are:

1. Follow PMI methodology to ensure successful delivery of project outcomes
2. Conduct the Project Planning, Execution, and Closure Phases
3. Produce quarterly executive reviews with recommendations for actions.

Management Controls

Project management will be controlled through two processes. Internal to OSDE, Superintendent Garrett will appoint an OSDE OKLDS project manager who will oversee the performance of the contracted project management team. For the OKLDS Project specifically, the project management component has been developed to be a formal aspect of the grant to ensure that these activities are not a second priority for anyone, or that project management is not performed by staff without adequate professional training and credentials.

Governance Structure

The Oklahoma State Department of Education (OSDE) will be the fiscal agent for the OKLDS Project and oversee the coordination of the cross-agency activities funded by the Project. The State Superintendent of Public Instruction, Sandy Garrett will be the principal administrator for the grant. As such, she will appoint the project manager for the OSDE project and coordinate the project managers designated by the partner agencies, coordinating the creation of a P20 LDS that provides interoperability and efficiency in data sharing.

This Coordinating Cross-agency Committee will mediate issues in data governance between the various agencies. The P20 Data Coordinating Council may advise the OSDE, OSRHE, ODCTE, Office of Accountability, the OESC, the Legislature, and the Governor on this coordination. Appendix A provides a high level view of the large number of agencies statewide participating in this project and the relationship among the agencies. The Coordinating Cross-agency Committee will establish policies for governing, data access process and procedures, and data validity and reliability studies. Business rules will be developed, maintained, and shared among stakeholders. Information on the governance structure, process and procedures, will be provided to all stakeholders. Confidentiality of records and information will be at the forefront of governing decisions.

(e) Staffing

<u>Component 1: Project Management and Systems Integration</u>		
<u>Project Executive Manager:</u> PMP Certified; experience in program management of information technology programs in education agencies; understanding of data integration management; risk assessment and management	<u>Full Time Contracted Employee Internal to the OSDE:</u> Provide direct oversight and direction to agencies. Assist in the management of grant activities and interface with USED/IES.	Hired following OSDE State procedures

<u>Project Management Team:</u> PMP Certified; experience in data integration projects; in-depth knowledge of data systems; and proficient in project planning documentation.	<u>2 Full Time Contracted Employees Internal to the OSDE:</u> Provide direct oversight and direction to agencies. Assist in the management of grant activities and interface with USED/IES.	Hired following OSDE State procedures
<u>Content Experts:</u> Experience with NCES data standards, NEDM, SCED, SIF, and other national standards; knowledge of SEA management, LEA data issues, and technology issues impacting LDS management.	<u>Contracted 350 hours in year 1; 200 hours annually thereafter:</u> Provide guidance in the application of best practices to the OKLDS Project design and implementation.	Contracted following OSDE State procedures
<u>Agency Designated Project Directors:</u> Experience within the agencies and skills coordinating across agencies	<u>In-Kind:</u> Each participating agency will designate an in-kind project director with responsibility for coordinating the activities of the OKLDS.	Appointed by the agency chief
<u>Component 2: Data Warehouse and P-20 Longitudinal Data System</u>		
<u>Analyst/Designer:</u> Technical expertise and experience in the design of data warehouse models and processes	<u>Contracted 400 hours in year 1:</u> Analyze the enhancements to the Wave data marts, requirements and design for the data marts for the other sources of OSDE data for the OSDE data marts for the P-20 LDS. <u>Internal 400 Hours in Year 1:</u> same tasks	L. Eriquez M. Reichert A. Elia T. Finch R. Thompson Y. Popova
<u>Developer:</u> Technical expertise in the development of data warehouse models and processes	<u>Contracted 400 hours in year 1:</u> develop the enhancements to the Wave and OSDE data marts. <u>Internal 400 hours in Year 1:</u> same tasks	L. Eriquez, M. Reichert A. Elia
<u>Developer:</u> Technical expertise in the development of data warehouses models and processes	<u>Contracted 400 hours in year 1:</u> develop the P-20 LDS data warehouse system <u>Internal 400 hours in Year 1:</u> Same Tasks	L. Eriquez M. Reichert A. Elia R. Napolitan
<u>Database Administrator:</u> Experience in under-standing education data to formulate cubes and reports	<u>Contracted 400 hours in year 1; 200 hours annually thereafter:</u> Assist the OSDE in the cube and reports design. <u>Hired full time:</u> Support software.	L. Eriquez, Internal staff hired following OSDE State procedures

<u>Component 3: The Wave Enhancements</u>		
<u>Analyst</u> : Understanding of education data, ED <i>Facts</i> , OSDE reporting requirements	<u>Consultant 375 hours in year 1</u> : Analyze the data elements required to compute and replace the aggregate statistics.	L. Eriquez M. Reichert A. Elia Internal Wave staff
<u>Developer</u> : Technical expertise and experience in the development of SIF systems, zone management, integration into data marts	<u>Contracted 4160 hours in year 1</u> : develop the enhancements to the SIF objects in the Wave collections and certified submission process <u>Internal Staff: 400 Hours in year 1</u> : assist CPSI with tasks	M. Reichert R. Napolitan R. Nguepsi T. Finch R. Thompson Y. Popova
<u>Component 4: Higher Education Data Quality Improvement</u>		
<u>Analyst</u> : Technical expertise and experience in the design of data warehouse models and processes	<u>Contracted 400 hours in year 1</u> : Analyze enhancements to the SLDS data marts and the requirements/design for the data marts for the other sources of OSDE data for the OSDE data marts; analyze the requirements and functions for the P-20 LDS; Internal 400 Hours in Year 1: same tasks	Consultant to be hired per OSDE State regulations; T. Hutchinson
<u>Developer</u> : Technical expertise and experience in the development of data warehouses models and processes	<u>Contracted 400 hours in year 1</u> : develop the enhancements to the data marts; develop the data marts for the Higher Education data sources Internal 400 hours in Year 1: same tasks	Consultant to be hired per OSDE State regulations; T. Hutchinson
<u>Developer</u> : Technical expertise and experience in the development of data warehouses models and processes	<u>Contracted 400 hours in year 1</u> : develop the enhancements to the data marts; develop the data marts for the Higher Education data sources <u>Internal 400 hours in Year 1</u> : same tasks	M. Reichert R. Napolitan R. Nguepsi T. Finch R. Thompson Y. Popova
<u>Component 5: Electronic Records and Transcripts Exchange</u>		
<u>Content Expert</u> : Experience in electronic records and transcript exchange management systems and national standards.	Hours TBD: To provide expert guidance on best practices for Oklahoma related to PK-12 to PK-12, high school to post secondary, and postsecondary to postsecondary electronic exchanges	RFP Process following OSDE State regulations

Component 6: Pre-Kindergarten Data Quality Improvement

<u>Pre-Kindergarten Data Specialist:</u> Experience in management of data, skills with databases, understanding of the data appropriate for pre-K	<u>Contracted or hired full-time in year 1; and thereafter:</u> Manage the data provided by the pre-kindergarten programs, train the programs to provide quality data, coordinate between the programs and the P-20 LDS, and provide design and insights to the grant.	Hired following OSDE State procedures
<u>Developer:</u> Technical expertise and experience in the development of data warehouses models and processes	<u>Contracted 200 hours in year 1:</u> develop the data marts; update the UID system. <u>Internal 100 hours in Year 1:</u> same tasks	L. Eriquez M. Reichert R. Nguetsi T. Finch R. Thompson Y. Popova

Component 7: Workforce Data Quality Improvement

<u>Workforce Data Specialist:</u> Experience in management of data, skills with databases, understanding of the data appropriate for workforce programs	<u>Contracted or hired full-time in year 1; and thereafter:</u> Manage the data provided by the workforce programs, train the programs to provide quality data, coordinate between the programs and the P-20 LDS, and provide design and insights to the grant.	Hired following OSDE State procedures
<u>Developer:</u> Technical expertise and experience in the development of data warehouses models and processes	<u>Contracted 100 hours in year 1:</u> develop the data marts <u>Internal 50 hours in Year 1:</u> same tasks	L. Eriquez M. Reichert R. Nguetsi T. Finch R. Thompson Y. Popova

Component 8: Career and Technical Education Data Quality Improvement

<u>Career and Technical Education Data Specialist:</u> Experience in management of data, skills with databases, understanding of the data appropriate for career and technical education programs	<u>Contracted or hired full-time in year 1; and thereafter:</u> Manage the data provided by the career and technical education programs, train the programs to provide quality data, coordinate between the programs and the P-20 LDS, and provide design and insights to the grant.	Hired following OSDE State procedures
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<u>Developer</u> : Technical expertise and experience in the development of data warehouses models and processes	<u>Contracted 200 hours in year 1</u> : develop the data marts; update the UID system <u>Internal 100 hours in Year 1</u> : same tasks	L. Eriquez M. Reichert R. Nguepsi T. Finch R. Thompson Y. Popova
<u>Component 9: Governance</u>		
<u>Information Architecture Content Expert</u> : Experience working with SEAs in the design and use of information systems	<u>Contracted 100 hours in year 1; 20 hours annually thereafter</u> : Facilitate the development of the IA, customize the IA documents, conduct interviews, produce final deliverable.	OSDE State bid or hire an expert to be located at the OSDE
<u>Process Flow Diagram Content Expert</u> : Education agency processes for information management, systems interoperability, application deployment	<u>Contracted 50 hours in year 1; 16 hours annually thereafter</u> : Facilitate documentation of data resources and relationships, creation of the data flow diagram.	A. Elia, OSDE State Sole Source requirements
<u>Data Access and Management Policy Expert</u> : Deep expertise in FERPA and other information access and use issues.	<u>Contracted 75 hours in year 1; 16 hours annually thereafter</u> : Conduct interviews, analyze policies, write Data Access and Management Policy document.	Contracted or internal hired resource by OSDE State procedures
<u>Component 10: Standards</u>		
<u>Metadata Content Expert</u> : Experience with NCES data standards (EDFacts, Handbooks, SCED), NEDM, SIF, and other national standards.	<u>Contracted 250 hours in year 1</u> : Facilitate the planning, documentation gathering, and management of the processes with the metadata specialists who will map document the metadata	M. Reichert A. Elia, OSDE State Sole Source requirements
<u>EDFacts Expert</u> : In-Depth understanding of EDFacts requirements, XML; successful experience submitting EDFacts for SEAs utilizing SIF	<u>Contracted 250 hours in year 1; 200 hours annually thereafter</u> : Verify content and map elements to EDFacts submission files.	M. Reichert A. Elia, OSDE State Sole Source requirements

<u>Course Mapping Content Expert:</u> Experience mapping local and state course numbers to SCED.	<u>Contracted 200 hours in year 1:</u> Facilitate documentation of course classifications and mapping to SCED.	OSDE State contract procedures
<u>Component 11: Evaluation</u>		
<u>External Evaluator:</u> Experience in program management of information technology programs; risk management; LDS grant process, requirements.	<u>Contracted 368 hours in year 1; 268 hours annually thereafter:</u> Review the project plan, monitor the plan, prepare and present status reports, prepare recommendations, present reports as requested.	Contracted per OSDE State procedures
<u>Component 12: Training and Support</u>		
<u>Training and Support Staff:</u> Experienced in Application Training and Support; Database administrators	<u>Contracted 200 hours in year 1; 40 hours annually thereafter:</u> Responsible for training the trainers/support staff <u>Internal:</u> 10 full time support professionals to meet the needs of training	A. Elia L. Eriquez R. Nguepsi Internal staff to be hired
<u>Software and Data Testing Expert:</u> Experienced in software and application testing; database administrator	<u>Internal:</u> 1 full time support professionals to meet the needs P-20 LDS Test Lab	Internal staff to be hired

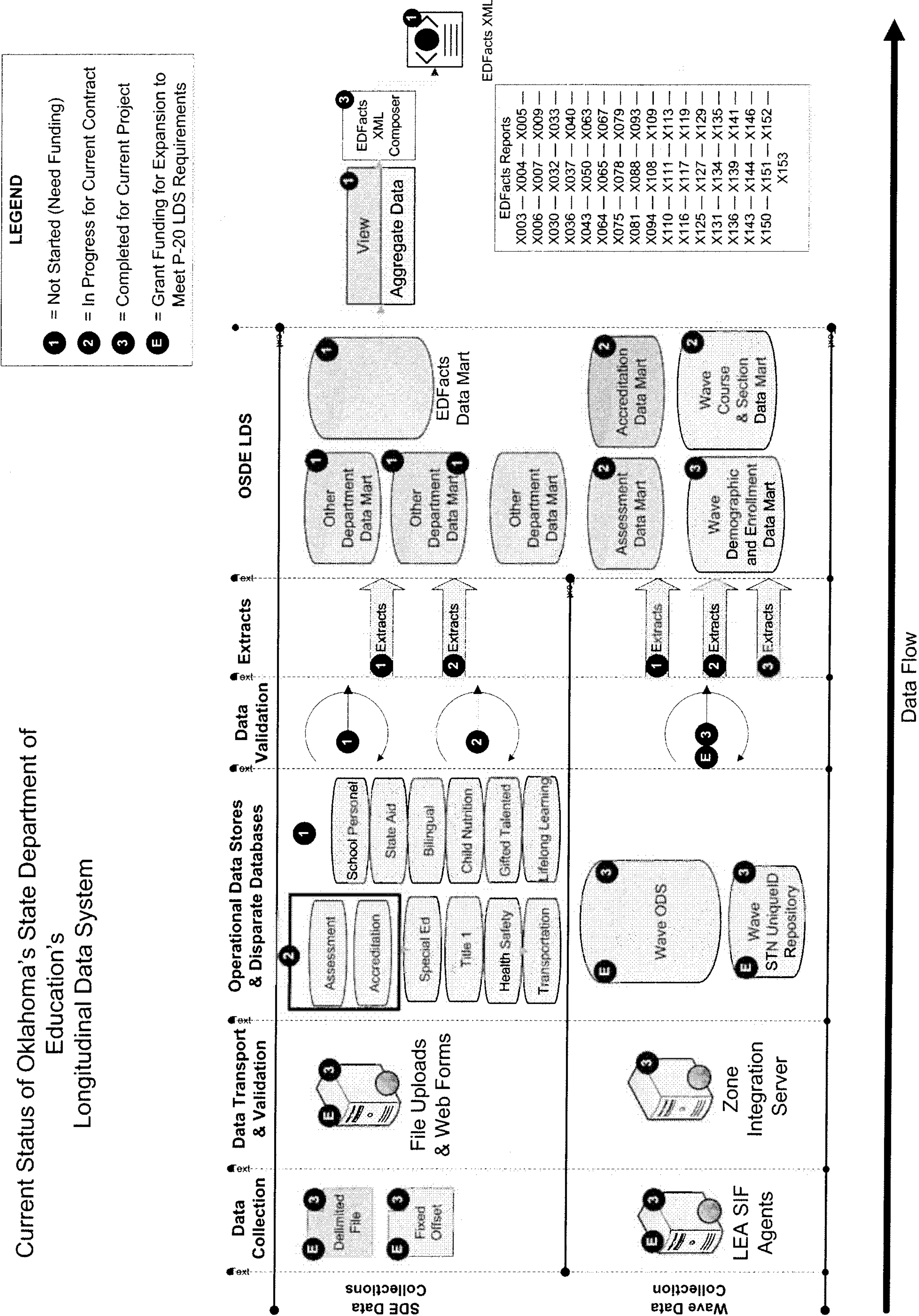
Project Narrative

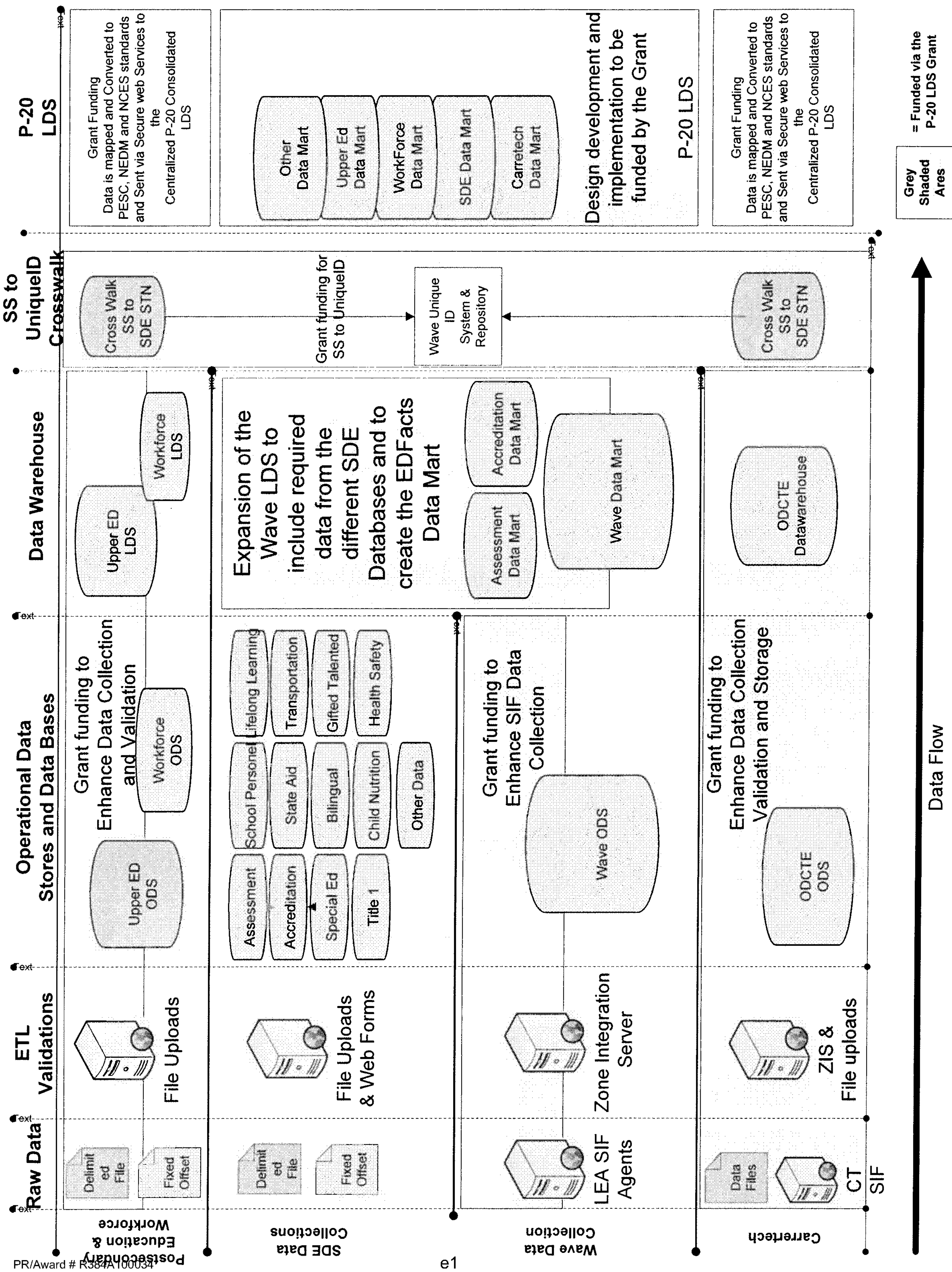
Project Narrative - Appendix A, Optional Attachments

Attachment 1:

Title: **Appendix A Optional Attachments OKLDS** Pages: **7** Uploaded File: **Appendix A Optional Attachments OKLDS.pdf**

Current Status of Oklahoma's State Department of
Education's
Longitudinal Data System



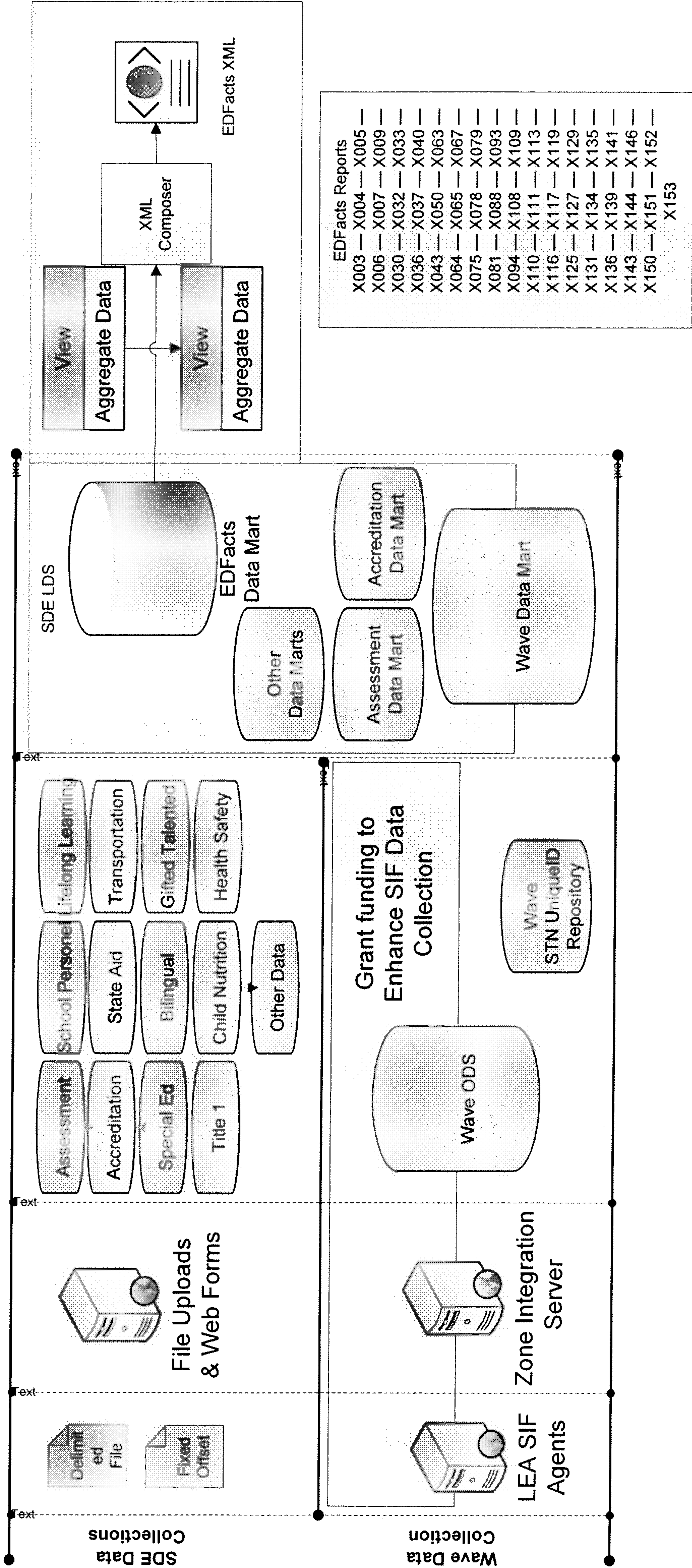


Grey Shaded Areas = Funded via the P-20 LDS Grant

Data Flow

Grey Shaded Areas
= Funded via the P-20 LDS Grant

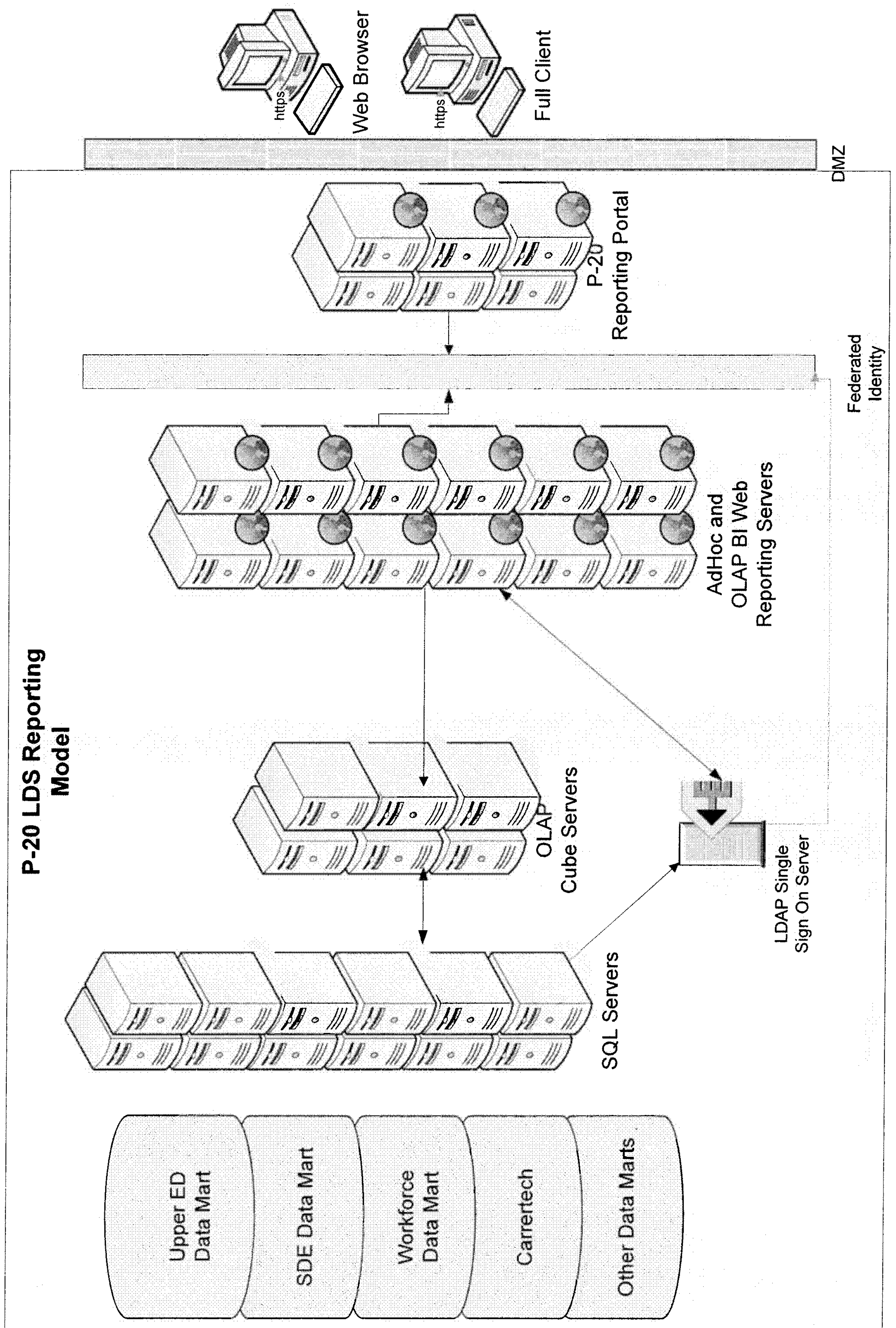
Expansion of the SDE LDS to include required data from the different SDE Databases and to create the EDFacts Data Mart

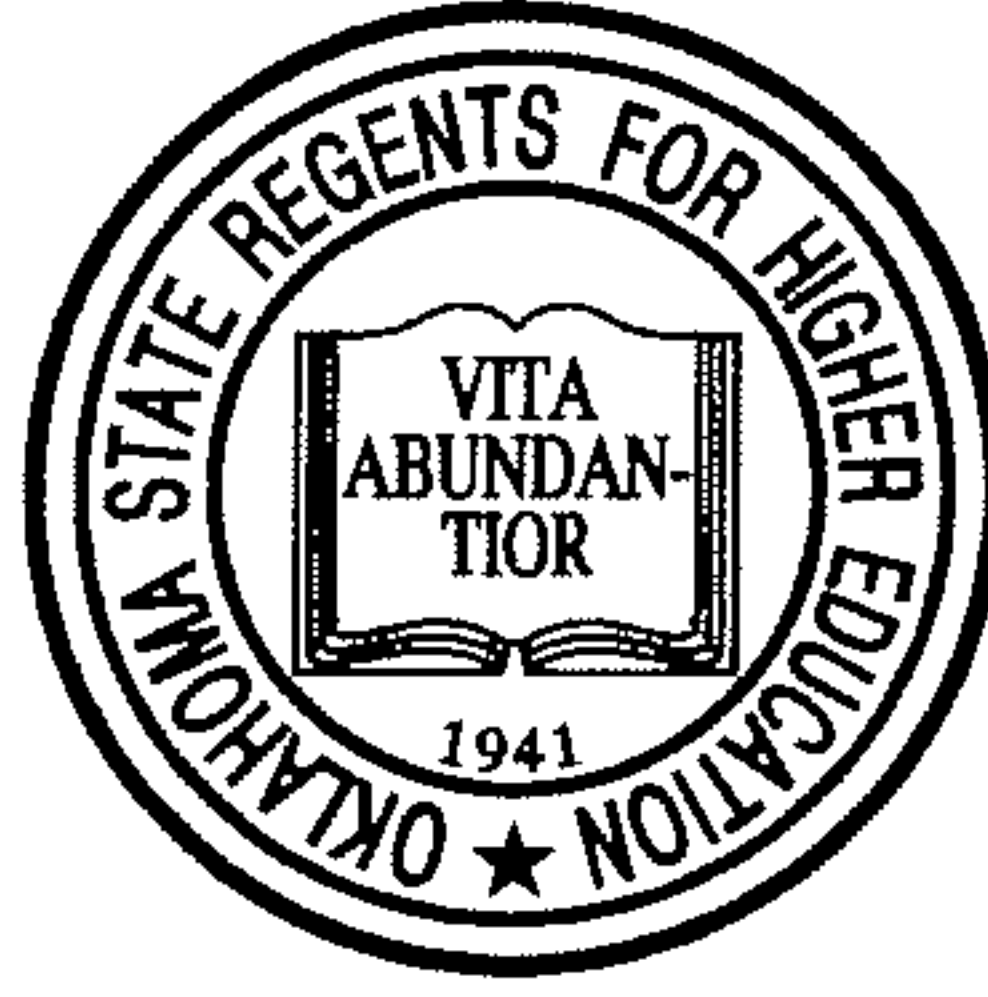


Data Flow

Grey
Shaded
Areas

= Funded via the
P-20 LDS Grant





**MEMORANDUM OF UNDERSTANDING
BETWEEN
The Oklahoma State Regents for Higher Education
AND
The Oklahoma State Department of Education**

This MEMORANDUM OF UNDERSTANDING is hereby made and entered into by and between the Oklahoma State Regents for Higher Education (“OSRHE”) and the Oklahoma State Department of Education (“SDE”).

A. Background:

The U.S. Department of Education, Institute of Education Sciences has released a request for applications for grants for Statewide, Longitudinal Data Systems under the American Recovery and Reinvestment Act of 2009 (“LDS grants”). The LDS grants will support the design, development and implementation of statewide, longitudinal data systems to efficiently manage, analyze and utilize individual student data.

The OSRHE and the SDE have agreed to work together in the development of the LDS grant, selection and engagement of consulting services and the distribution of any LDS grant funds awarded to the State of Oklahoma.

B. Purpose:

The purpose of this Memorandum is to establish a formal framework between the SDE and the OSRHE concerning the development and implementation of a Statewide, Longitudinal Data Systems Grant.

This Memorandum acknowledges the intentions and understanding of the parties’ cooperation in an effort to accomplish the stated objectives.

C. Terms:

Both the SDE and the OSRHE shall operate in good faith with regard to this matter. During the term of this Memorandum, the SDE and the OSRHE shall retain responsibility for the safeguarding of information to be shared under this Memorandum.

In order to move expeditiously, it is agreed that both parties will endeavor to be forthcoming in providing requested information in a timely manner.

D. Duties and Responsibilities of the SDE:

The SDE shall be responsible for the following under this Memorandum:

- 1) The SDE shall act as lead entity in the submission of the grant to the U.S. Department of Education.
- 2) The SDE shall work expeditiously with the OSRHE in the development of the LDS grant.
- 3) The SDE shall coordinate with the OSRHE on the selection and engagement of consulting services.
- 4) Upon engagement of the mutually approved consultant entity, the SDE shall coordinate with the OSRHE concerning the consultant's activity throughout the term of the engagement.
- 5) The SDE shall be responsible for timely payment of fifty percent (50%) of the consulting services fees.
- 6) The SDE shall act as fiscal agent for all monies received under the LDS grant; however, the SDE shall coordinate with the OSRHE on the distribution of all LDS grant funds throughout the term of the grant.
- 7) The SDE shall provide to the OSRHE, in a timely manner, monthly reports of all expenditures of the LDS grant funds.
- 8) Upon award and throughout the term of the LDS grant, the SDE shall comply with the terms of the LDS grant and all applicable state and federal law and regulations.
- 9) Upon award and throughout the term of the LDS grant, the SDE and the OSRHE shall jointly manage the operations and funding of the grant.

E. Duties and Responsibilities of the OSRHE:

The OSRHE shall be responsible for the following under this Memorandum:

- 1) The OSRHE shall work expeditiously with the SDE in the development of the LDS grant.
- 2) The OSRHE shall coordinate with the SDE on the engagement of consulting services.
- 3) Upon engagement of the mutually approved consultant entity, the OSRHE shall coordinate with the SDE concerning the consultant's activity throughout the term of the engagement.
- 4) The OSRHE shall be responsible for timely payment of fifty percent (50%) of the consulting services fees.
- 5) The OSRHE shall coordinate with the SDE on distribution of all LDS grant funds throughout the term of the grant.
- 6) Upon award and throughout the term of the LDS grant, the OSRHE shall comply with the terms of the LDS grant and all applicable state and federal law and regulations.

- 7) Upon award and throughout the term of the LDS grant, the SDE and the OSRHE shall jointly manage the operations and funding of the grant.

F. Contacts:

Contacts for the purpose of this Memorandum shall be as follows:

On behalf of the SDE:

Lealon Taylor
Chief of Staff
Oklahoma State Department of Education
2500 North Lincoln Boulevard
Oklahoma City, OK 73105
Phone: (405) 521-3301
Fax: (405) 521-6205
Email: lealon_taylor@sde.state.ok.us

On behalf of the OSRHE:

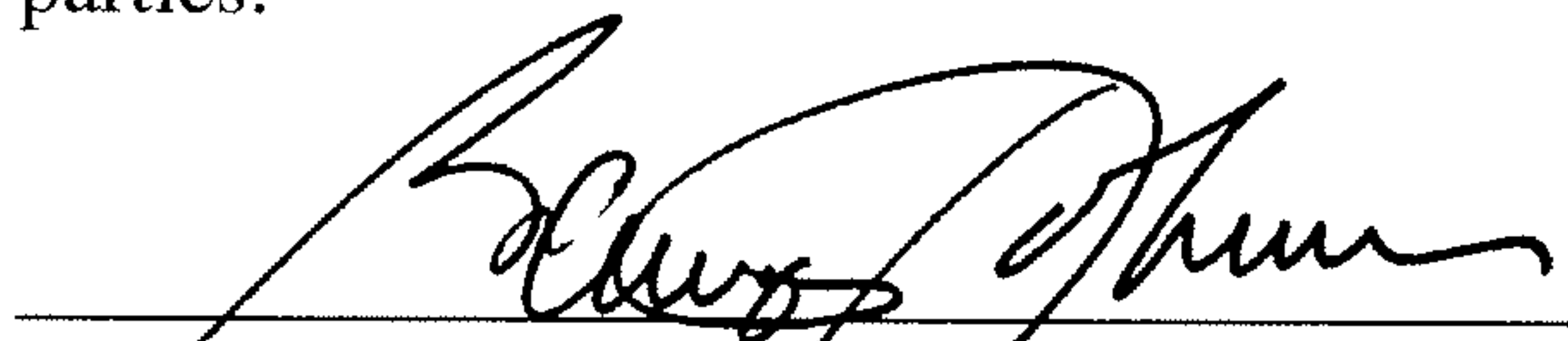
Tony Hutchison
Vice Chancellor for Strategic Planning, Research, Economic Development and Workforce
Oklahoma State Regents for Higher Education
655 Research Parkway, Suite 200
Oklahoma City, OK 73104
Phone: (405) 225-9100
Fax: (405) 225-9230
Email: thutchison@osrhe.edu

G. Modifications/Terminations:

This Memorandum may be amended at any time by mutual agreement of the parties. Either party may terminate this Memorandum by providing thirty (30) days written notice to the other party.

H. Term of the Memorandum:

This Memorandum will become effective on the latter date written below as evidenced by the signatures of the parties' respective duly authorized officers and will remain in effect until all awarded grant funds have been expended or until project completion as agreed upon by both parties.


Glen D. Johnson, Chancellor
Oklahoma State Regents for Higher Education

Date: 12-1-09

Approved
As To Form

Initials rec

Project Narrative

Project Narrative - Appendix B Resumes of Key Personnel

Attachment 1:

Title: **Appendix B Resumes OKLDS** Pages: **31** Uploaded File: **Appendix B Resumes OKLDS.pdf**

Barbara Roewe, PMP, Executive Director
The Wave, Oklahoma Statewide Student Information System

EXPERIENCE

2003 – Present: Project Manager - Student Information Systems, The Wave
Oklahoma State Department of Education

- Manage contractor teams for the planning, development, and implementation of the Wave, Oklahoma's enterprise data warehouse system for educational accountability.
- Develop and adhere to timelines, deliverables, and scope of the system.
- Establish processes/procedures for communication between the State Department of Education and school districts to receive information including Web sites, reports, system overview documents, user manuals, and training.
- Manage 2.5 million dollar budget for staff, contractors, equipment, travel, and materials.
- Represent the Oklahoma State Superintendent of Public Instruction by presenting to and participating in national organizations (National Center of Education Statistics, Schools Interoperability Framework, Data Quality Campaign, Council of Chief State School Officers.)
- Work with confidential and sensitive information in a documented and procedural manner.
- Manage staff responsible for the security and technical development of the Wave.
- Conduct validation procedures for data quality and accuracy.
- Develop a system for the dissemination and use of quality data to internal agency staff.

2001-2003: Contractor: Data Analyst –Special Education Division
Oklahoma State Department of Education

- Analyzed the Child Count data to meet federal reporting requirements.
- Developed a data base for the collection of the Data Report using SPSS: entered data, validated for data quality, and disseminated information back to school districts. Aggregated information to meet reporting requirements.
- Developed scoring and analysis procedures for the Oklahoma Alternate Assessment Program.
- Generated state and district reporting results for dissemination. Calculated inter-rater reliability and validity coefficients. Provided data files to the Office of Accountability for use in the Adequate Yearly Progress and Academic Performance Index calculations.
- Participated on monitoring visits for districts with deficiencies. Produced a system for evaluating the most "in need" districts based on historical information of district reporting performance and evaluations.
- Provided customer service to districts in need of technical help in submitting data requirements.
- Conducted statewide trainings.

1997-2000: Director -Research and Evaluation
Oklahoma State Department of Education

- Worked with federal program leaders in the development and completion of reports and other analyses related to federal assessment requirements including disaggregation of variables and crosswalking with numerous databases.
- Disseminated information and performed prediction studies utilizing a combination of variables to enable sound recommendations for legislators and state board members for decision-making.

- Established criteria for identifying schools in need as well as initiating an academic performance index to be utilized for school identification.
- Established several automated processes for timely dissemination of information.
- Developed and utilized a computerized system for the storing and retrieval of historical and longitudinal information.
- Developed adequate yearly progress criteria for school improvement list and distinguished school awards, and provided results to Title I program.
- Worked with confidential and sensitive information on a daily basis.
- Conducted research that analyzed and reported assessment results in relation to state content and performance standards to determine progress and trends.
- Worked with schools in conducting a needs assessment for comprehensive school reform.
- Generated district and school report card publications.

1985-1997: Testing/Research Specialist

Oklahoma Department of Career and Technology Education

- Coordinated the development and implementation of statewide standards and measures for vocational programs in comprehensive high schools, area technology centers, and skills centers.
- Trained teachers and industry representatives in developing instructional materials endorsing the alignment of curriculum with state standards and initiatives.
- Developed training materials and trained contracted test writers in the development of multiple-choice, scenario, and hand-on component evaluation instruments.
- Developed state/national certification exams. Established methodologies for obtaining the validity and reliability of evaluation instruments using pilot studies, incumbent worker/supervisor surveys and test results, and the results of currently used tests.
- Reviewed literature and conducted research studies to establish methodologies for cut scores, readability indexes, and test length.
- Created, utilized, and maintained a database system for the collection, analysis, dissemination and interpretation of test results.
- Provided reports regarding test performance to testing staff, occupational supervisors, and testing liaisons while maintaining confidentiality of individual results.
- Established computerized testing systems for organizations contracted with our agency for scoring and interpreting test results.
- Gathered information to establish validity, reliability, and appropriateness of tests for the Teacher Certification Project. Developed objectives and exams for the area of Agricultural Education used in certifying vocational instructors.
- Surveyed Oklahoma industries regarding employment trends and used data for future vocational program development. Established standards for and participated on evaluation teams for program improvement.
- Compiled and disseminated pertinent information for the Federal Register statewide.

1983-1985: Instructor, Teaching Assistant

Department of Applied Behavioral Studies in Education, Oklahoma State University

- Served as instructor for Measurement and Evaluation (ABSED 4052). Course content included construction and selection of classroom tests, criterion-referenced and norm-referenced measurement strategies, grading techniques, standardized test selection, and score interpretation

in analyzing test results.

- Instructed graduate level laboratories for Elementary Statistical Methods in Education (ABSED 5952) and Educational Measurements (ABSED 5373). Course content consisted of frequency distributions, central tendency, percentiles and norms, variability, the normal curve, sampling theory, correlation, prediction and regression, one-way and two-way analysis of variance, and nonparametric statistical tests.
- Assisted in teaching graduate level Foundations of Educational Research (ABSED 5053). Content included research design, methodology, sampling techniques, internal and external validity, descriptive and inferential statistics, and the scientific method in problem solving.

1982-1985: Teacher, Substitute Teacher

Stillwater Public Schools

- Grade 5 teacher, departmentalized mathematics.
- Substitute teacher for Grades 5-9.
- English as a Second Language adult evening instructor.
- GED Preparation course instructor.

SKILLS

- Oral and Written Communication: publishing research papers, presenting training sessions nationwide regarding testing processes and procedures, in-servicing educators, and managing staff in the completion of large projects as well as daily activities.
- Organizational skills: storing and retrieving large quantities of data for decision-making purposes, working with several large committees simultaneously, securing confidential materials, and establishing computerized systems of information.
- Computer skills: Microsoft Office Applications, SPSS Statistical software, NCS ScanTools, TSO mainframe applications, Internet, and various software for instructional management.
- Characteristics: team player, honest, hardworking, flexible, knowledgeable in subject matter, and a willingness and desire to learn.

EDUCATION

- Master of Science, Research and Evaluation, Oklahoma State University
- Bachelor of Science, Education, Oklahoma State University
- Standard Teaching Certificate: Middle School and Junior High School Endorsements in Mathematics and Science.

CERTIFICATIONS AND MEMBERSHIPS

- Project Management Professional (PMP) Certification
- Master Gardener, Cooperative Extension Service, Oklahoma State University
- Oklahoma Teaching License, Grades K-8
- Toastmasters International, Competent Toastmaster (CTM)
- Volunteer Income Tax Assistant, Internal Revenue Service

Jubeen Shakya, Database Administrator
The Wave, Oklahoma Statewide Student Information System

EXPERIENCE

Oklahoma State Department of Education ~ the Wave, Oklahoma city, OK

Dec, 08 – present

Database Administrator

- Administer multiple Wave databases and servers using Microsoft SQL Server and Windows Server to organize and store data.
- Test and coordinate changes in database configuration, services and applications.
- Ensure performance of database by monitoring transactions, taking account of disk read/write by each transaction, reviewing codes and physical disk topology.
- Coordinate physical changes to computer databases.
- Provide and maintain user access based on their responsibilities.
- Enforce best practices regarding to coding, scripting, and setting up servers for best performance.
- Troubleshoot database and/or system performance issues.
- Monitor/create/manage jobs to automate most frequent tasks.
- Monitor Contractor's applications and services performance.
- Perform performance tuning by utilizing Perfmon, Database Engine Tuning Advisor, SQL Profiler, and Activity monitor tools.
- Work close with management, helpdesk, developers and tech team to help achieve common goals with available resources.
- Manage/update/secure all production SQL Servers.

Solo Cup Company, Highland Park, IL

April, 07 – July, 08

SQL Server DBA

- Actively supported business users for change requests.
- Planned, defined and designed data flow processes for data migration to the Data Warehouse.
- Monitored performance – Monitoring memory, CPU utilization, disk utilization, locks, deadlocks, runtime of queries.
- Assisted in migration process of DTS packages, Stored Procedures, and databases to SQL Server 2005.
- Managed planning and designing of the Data Warehouse projects.
- Checked and fixed Database consistency and data integrity frequently.
- Setup, monitored and resolved Log Shipping and Replication Processes.
- Created reports using SSIS.

Andrew Corporation, Westchester, IL
SQL Server DBA

Sep, 06 – Feb, 07

- Monitored and troubleshoot to ensure availability of SQL Server all data bases in production, staging and QA layers.
- Monitored all the databases transaction logs, Win logs, and SQL Server error logs, and alerts on each server.
- Worked close with QAs and kept informed any staging transaction log issues and published all staging transaction log issues to QA and application development team.
- Conducted performance monitoring and tuning in the production and staging layers.
- Designed, installed and maintained production layer monitoring processes to ensure the detection and notification of any failure within the SQL environment.
- Investigated potential data anomalies in the production layer databases, and as directed generated production data reports.
- Assisted Network Security in the design, implementation, and monitoring of security policies and procedures to safeguard production data from unauthorized access from internal or external sources.
- Assisted Development team to resolved migration issues of Stored Procedures, Views, User-Defined Functions, and DTS packages from SQL Server 2000 to SQL Server 2005
- Deployed patches, hotfixes, and service packs in SQL Server 2005 Production layers.

Aromatique Inc., Heber Springs, AR
SQL DBA

June, 05 – Aug, 06

- Designed and configured database architecture, including hardware and physical layouts.
- Setup and enforced best practice database troubleshooting, corruption, backup, disaster recovery and security.
- Reviewed and tuned SQL queries, stored procedures, SQL Server configuration settings, and performance.
- Investigated and resolved data and server issues as needed.
- Performed routine database maintenance, performance monitoring and tuning by utilizing third party tools Quest Central.
- Created documentation for DBA procedures and production database environment.
- Assisted in implementing SQL Server high availability solutions including replication and log shipping.
- Provided support for DTS packages and Transactional/Merge replication.
- Provided support and maintenance on Access linked databases.
- Prepared Access and Excel reports for IT and Management Departments.

Landmarkbank, N.A., Madill, OK
SQL DBA

Sep, 04 – May, 05

- Reviewed description of changes to database design to understand how changes to be made physical databases and how data was stored in terms of physical characteristics, such as location, amount of space, and access method.
- Implemented database security (logins, roles, and ownerships), maintenance and backup routines.

- Provided support within the department on backup, hardware and network maintenance routines and provided user assistance as requested.
- Forecasted technology requirements and recommended steps to ensure processing capacity and system compatibility.
- Monitored and supported daily DTS routines critical to business processes.
- Enforced company standards in relation to data-related system architecture, data integrity, and data access methods.
- Performed weekly and monthly database maintenance, index tuning, and install patches and hot fixes.
- Prepared departmental documentation and reports for future references.

Pre-Paid Legal Services, Inc, Ada, OK

May, 04 – August, 04

Database Administrator, Intern

- Monitor all the daily and weekly scheduled jobs.
- Verify backup copies.
- Monitor software and hardware performance.

SKILLS

Database:

Microsoft SQL Server 2000/2005, MySQL, MS Access 2000

Programming:

Microsoft Visual Studio .NET 2002/2003/2005, COBOL, HTML, PERL, VBScript, Bourne Shell, Transact-SQL

Software and Tools:

SQL Enterprise Manager, SQL Query Analyzer, SQL Profiler, DTS, and SQL 2000 Analysis Services and Reporting Services, SSMS, SSIS, SSAS, SSRS, BIDS, Database Engine Tuning Advisor, Crystal Reports, SQL Backup, SQL Compare, SQL Data Compare, SQLsentry, Quest Central, Visual SourceSafe, Microsoft Office 2000/2003/2007 suite.

Platforms:

Windows NT 4.0, Windows 2000 Pro, Windows XP pro, Windows 2000 Advanced Server, Windows 2003 Enterprise, Windows NT 4.0, Windows Small Business Server 2003, FreeBSD 4.0, SCO UNIX 5.0.5, RedHat Linux 7.1/8.0/9.0.

EDUCATION

Bachelor Degree in Computer Science and Information Technology
East Central University, Ada, Oklahoma (May, 2004)

Bachelor Degree in Business Administration
Trivuban University, Kathmandu, Nepal (1998)

Duane Brown, System Support Lead
The Wave, Oklahoma Statewide Student Information System

EXPERIENCE

2007 – Present: Systems Support Lead – Student Information Systems, The Wave
Oklahoma State Department of Education

- Problem solving utilizing a thorough knowledge of systems and applications for both the district and the Wave.
- Thorough knowledge of the Schools Interoperability Framework (SIF) from basic to a more complex understanding
- Knowledge using Microsoft SQL for query writing, and issue resolution. Ability to write simple to more complex queries.
- Presentation skills. Regularly presenting to a variety of individuals regarding complex technical matters and simple application instructions.

2005 – 2007: Director of Entertainment/Customer Service
Warr Acres Incredible Pizza Company, OK

- Managing sixty plus employees.
- Troubleshooting over 100 video games/attractions utilizing varying technology.
- Knowledge of IDEAL application that linked all systems (cashiers, party scheduling, video game play, video game sales, prize redemption, inventory) together.

SKILLS

- Microsoft SQL Management Studio
- Oral and Written Communication Skills
- Presentations
 - 2009 National Center for Educational Statistics Management Information Systems Conference – Presentation on the Build and Rebuild of the Wave system to achieve a successful real-time longitudinal data system.
 - 2009 Oklahoma Technology Association (OTA) Conference – Presentation to district administrators and technology personnel on how to speak “SIF” to your vendor.
 - 2009 Software Technologies Incorporated (STI) User Conference – Presented to district administrators and technology staff regarding the status of successful SIF 2.0r1 implementation and future goals for the Wave and the districts.
 - 2008, 2009 State Superintendents Annual Leadership Conference – Presentations made to district administrators regarding the upcoming SIF 2.0r1 implementation in the fall of 2008 and presentation made regarding the current success and future success of the Wave during the 2009 conference.
 - 2008 Municipal Accounting Systems (MAS) Conference – Guest speaker at MAS Conference to discuss upcoming SIF 2.0r1 release in the fall of 2008.

- 2008 Student Transfer System Training – Conducted several training sessions via video conference on the student transfer system application located on the Wave Web site.
- 2007, 2008, 2009 Wave Training – Conducted Training of district staff regarding the Wave System and reports/applications on the Wave Web site at locations across Oklahoma.
- Windows Office Suite thorough knowledge
- Excellent problem solving skills.

EDUCATION

- Bachelor of Arts, Music, Southern Nazarene University

Raymond L. Thompson, .Net Applications Specialist
The Wave, Oklahoma Statewide Student Information System

EXPERIENCE

Oklahoma State Department of Education (01/2007 to present)

Wave Team

.NET Application Specialist/Developer

- Implement OSDE business rules and applied according to Schools Interoperability Framework (SIF) in data validation of student information submitted to OSDE by school districts throughout the state. Maintain existing DotNetNuke modules and developed new DotNetNuke modules for Wave website for school districts to view results of submitted student information. Write and run adhoc SQL queries to analyze data in Operational Data Store databases.

RS Software, Norman, Oklahoma (12/2004 to 01/2007)

- Made enhancements to existing software applications using VB6 and SQL.
- Developed new applications for pharmacy industry using VB.Net (03 and 05)
- Provided customer support for existing customers.

Americrest Bank, Oklahoma City, Oklahoma

Vice President of Data Processing (1988 to 2003)

Programmer/Analyst (1984 to 1988)

- Managed centralized data processing operations of \$600 million bank. Reported to executive vice president. Was responsible for hardware/software upgrades, performance tuning and capacity planning. Customized core application software. (Jack Henry & Associates' Liberty Banking System)
- Developed interfaces and communications for Debit Card, ATM, loan coupon ordering, automatic ACH loan payments, automatic ACH CD interest payments and IRA distributions.
- Automated payroll and accounts payable interfaces to general ledger.
- Developed Cash Balancing, Shareholder Accounting, and Savings Bond Cashing/Tax Reporting systems.
- Purchased, installed and developed interface for COLD system for online reporting.
- Purchased and installed IBM 3892 18 pocket document sorter for check processing.
- Developed check-processing system including sorter software, communications, and interfaces to Liberty Banking System.
- Developed, implemented, and tested Disaster Recovery Plan.
- Configured and implemented TCP/IP communications on AS/400.
- Developed interface for new image based check processing system.

First Data Management Corporation, Oklahoma City, Oklahoma
Programmer/Analyst Special Projects (1982 to 1984)
Senior Programmer/Analyst (1979 to 1980)

Languages: RPG III, RPG IV (ILE), CL, CLE, PL1, COBOL, Assembly, Fortran, C, C++,
Visual Basic.Net, VB6, C#, Boo, XML, SQL, Java, HTML

Communications Protocols: Bisync, Async, TCP/IP, FTP, RJE, SNA/SDLC

Operating Systems: OS/400, WIN95/98/NT, 2000, XP, Vista, Novell 3.x, DOS, IMS, and
MVS/JES3

Equipment: IBM AS/400, IBM S/36, IBM S/38, IBM 3083 (mainframe), Personal Computers

EDUCATION

160 hours @ University of Central Oklahoma, Edmond, OK and OCCC, Oklahoma City, OK
Major - Mathematics, Minor - Computer Science (GPA 3.05)

XML Class – Premirus Corporation

A+ Certified

Net+ Certification Course

Novell System Administration 3.1, Novell Training Center, Bartlesville, OK

LogiXML AdHoc Reporting

Michael Shoffstall, Security and Policy Director
The Wave, Oklahoma Statewide Student Information System

EXPERIENCE

Oklahoma State Department of Education
The *Wave*, Oklahoma's State Student Information System
Network Administrator/Security Officer
July 1, 2005 – Present

Research and document all OSDE access and security policies consistent with the Family Educational Rights and Privacy Act. Reviews "State of Oklahoma - Information Security Policy, Procedures, and Guidelines" as documented by the Office of State Finance. Work with agency management to ensure compliance with the guidelines. Work with agency management and the Office of State Finance in the definition of "firewall rules." Establish procedures for monitoring and documenting Web site accessibility of confidential data. Compose and provide confidentiality forms for all levels of security for the *Wave*; assign access as appropriate to approved users. Work with internal and external audit staff in periodic review/audits of agency compliance with security standards. Work in conjunction with network specialist to ensure that network security safeguards combined with security access policies provide a complete security package for the *Wave*. Assist contractor in developing security policies training plan for OSDE staff and district/school staff. Conduct security training portion of the *Wave* trainings for school district and site personnel. Develop comprehensive disaster recovery plan. Document and publish plan. Responsible for two person team taking care of all Servers and SQL Databases for the Wave and firewalls for OSDE.

Oklahoma State Department of Career and Technology Education
Systems Design and Computer Services
Manager Operations/Communications
October 1994 – June 2005

Responsible for a staff of six maintaining all System Software on a IBM 2003, Novell Network, Windows NT Network, operations of all related equipment, and Computer Support Help Desk. Monitoring Internet usage. Responsible for all security of installed computer systems, installing, upgrading, and maintaining Sun Solaris Servers.

Supervisor, Systems Software and Administrative Liaison
February 1993 - October 1994

De-installation of System/36, establishing connection through fiber optic to Office of State Finance, and being the liaison between the System Design Computer Services Division and upper management through verbal and written communication.

Supervisor, Systems Software

November 1991 - February, 1993

Responsible for a staff of 3 Software Specialists maintaining all System Software on a IBM 9221, IBM System/36, and a Novell Network. This software includes VM/ESA 1.0 Operating System and associated subsystems, M204 Database, SSP on System/36, and Netware 3.11.

Providing technical support for staff and end-users.

Supervisor Applications Development Group

October, 1987 - November, 1991

Responsible for staff of 5 System Analyst/Programmers developing and maintaining Cobol and M204 systems. This involved using TSO, ISPF, and CMS to accomplish the work. Developing dBase III systems on PC's standalone and networked with PC-Lan and Novell as servers on a token ring. Support staff with problem solving help, system design approval of new systems, recommendation of changes to existing systems, interfacing with Users to develop changes, and resolving problems between Users and Staff.

EDUCATION

Bachelor of Science degree in Accounting from University of Central Oklahoma

Facilitated Total Quality Management (TQM) trainings

PROFESSIONAL QUALIFICATIONS

Certifications and Accreditations

IBM VM System Programming

Cincom Total Database

Datapoint RMS System Operations

Hewlett Packard System Managers

M204 User Language

Praxis System Performance and Tuning for Model204

Internetworking with TCP/IP

Designing LANS, WANS, and Broadband Networks

Internet Application Development for the Enterprise

Windows Servers 2003, 2008

PROFESSIONAL MEMBERSHIPS

Infragard

MILITARY EXPERIENCE

Active Duty. U.S. Army, November, 1965 - September, 1969.

Served as Drill Instructor at Field Artillery School in FT. Sill, Oklahoma.

Vietnam duty tour May, 1968 - May, 1969.

Thomas Finch, Lead Software Developer
The Wave, Oklahoma Statewide Student Information System

EXPERIENCE

Oklahoma State Department of Education

The Wave

Lead Software Developer

February 27, 2006 - present

- Create DotNetNuke web modules to work with the Wave's data and the district/school users. I participate in the training of these modules and also the continued maintenance of these modules as well.
- Create window applications to allow our help desk personnel and other staff members to work with data we have collected from the districts/schools, our subcontractors, vendors, and ourselves.
- Work closely with our other developers and DBA personnel in order to assure that our applications/data extraction methods are all running/operating as close to perfection as possible.

RS Software

Software Developer / Web Developer

January 2004 – February 20, 2006

- Created and maintained web sites.
- Maintained both on and off web servers where the web sites were hosted.
- Worked with every one of the sites administrators and trained on all updates made to the sites.
- Created web services to communicate via encryption from window application across the internet that worked in conjunction with web applications.

Comtec Electronic Systems, Inc.

Service/Installation Manager

January 1987 - January 2001

- Began as Installation Technician. After one year, promoted to service and on-call technician. Promoted to Service Manager. In 1999, promoted to Service/Installation Manager.
- Installed and maintained any kind of electronic system installed into homes/businesses. This included security, fire, access, surveillance, central vacuum, cable, network, and audio systems.
- Worked closely with customers, technicians, vendors, and staff to coordinate and complete jobs in a timely fashion.
- Vigilant in quality production and customer satisfaction.
- Responsible for hiring and firing employees.
- Managed up to ten installation and service technicians. Developed work schedules, trained, and inspected for quality workmanship.

- Organized training programs, for staff development. Recommend raises for quality workers and dealt with personnel problems.

SKILLS

- Work with all Microsoft Office software.
- Know many development/data communication languages such as C, C++, C#, VB 6.0, VB.NET, Cobol, Java, Turbo Pascal, HTML, XML, XHTML, Oracle 9i, ASP, ASP.NET, VBScript, JavaScript, CSS, and SQL Server 2000 and 2005.
- Visual Studio 2003, 2005, and 2008 development software.

EDUCATION

- Computer Science Degree/Programming

Yulia Popova, .Net Applications Specialist
The Wave, Oklahoma Statewide Student Information System

EXPERIENCE

January 2009 - present ASP.NET Specialist

Oklahoma State Department of Education, Oklahoma City, OK

Responsible in helping the Wave Team (State Student Information Section at Oklahoma State Department of Education) implement the SIF specification in the course of collecting student information from each of the districts within the state using appropriate technologies. Assist in the decision-making process in order to best utilize existing technologies and to help troubleshoot and correct any errors in the process. Help the Wave team in implementing School Interoperability Framework standards. Write applications for the Help Desk to enable them to assist all users within the state dealing with the Wave.

- Analyze and design program logic, screen layouts, reports and testing criteria to support development of new modules, applications and services to meet specifications.
- Prepare program documentation to support new or enhanced systems and applications.
- Perform ongoing maintenance and review of existing application systems, DNN modules, reports and services. Identify problems and develop appropriate solutions.
- Conduct or coordinate user acceptance, performance stress, regression and integration testing; make changes and corrections as needed.
- Work through all phases of the software development lifecycle, including analysis, design, implementation, testing, deployment and maintenance.

11/2002 – January 2009 Senior Software Developer / Consultant

KPK Software LLC, Edmond, OK

- Co-founded a Software Development company in addition to holding full time employment.
- Completed over a 150 total company related projects, over 90% for repeat customers.
- Completed/managed over 70 web development and software development projects on E-Lance and Rent-A-Coder, facing stiff competition from hundreds of outsourcing companies.
- Collaborated with and managed many sub-contract developers on complex projects, many times with overseas contacts.

7/2002 – January 2009 Web/Database Developer

Dept of Agricultural Economics, Oklahoma State University, Stillwater, OK

Collaborate with Department's faculty, staff and extension personnel to translate business requirements and determine website structure, content, development effort, and platform requirements. Duties include but are not limited to:

- Designed and organized new interactive departmental websites
- Maintained and upgraded existing websites
- Incorporated text, graphics, multimedia, and data resources in web design
- Developed web-based application solutions to meet Department's goals and objectives
- Maintained, developed, and managed databases in MS Access and SQL Server 2000/2005, including student/faculty/alumni/staff account administration, report and query creation, future planning, and advanced user training
- Created technical documentation and client support documentation
- Maintained Departmental servers with IIS/SQL Server

11/2001 - 7/2002 Web/Database Developer

Dept of Bio-Systems and Agricultural Engineering, Oklahoma State University, Stillwater, OK

- Created interactive websites using ASP, JavaScript and MS Access
- Enhanced a content-intensive website for the Water Quality Extension using JavaScript and CSS styling.

1/2001 - 1/2002 Teaching Assistant

College of Business Administration, Oklahoma State University, Stillwater, OK

- Helped graduate and undergraduate students with their Java projects
- Worked with Visual Basic, written software to maintain MIS student records

SKILLS

C#, VB.Net, Visual Studio 2005/2008, IIS 5.1, SQL Server Management Studio, SQL Server 2005, SQL Server Reporting Services, Telerik Controls, DotNetNuke, Javascript, CSS, XML, MS FrontPage, MS Access, ASP, PHP, MySQL, Adobe Photoshop, Macromedia Flash, HTML, DHTML.

EDUCATION

- 8/2002 Masters Degree in Management Information Systems, Oklahoma State University
- 12/2000 Masters Degree in Environmental Science, Oklahoma State University

Kevin Marnell, System Support Specialist
The Wave, Oklahoma Statewide Student Information System

EXPERIENCE

State Department of Education - Oklahoma City, Oklahoma	2006-present
System Support Specialist	
<ul style="list-style-type: none">• Install, configure, and maintain all servers supporting Oklahoma’s statewide student information system• Schedule daily, weekly and monthly data backups• PC and server support for all office employees• Provide weekly status reports to management	
Customer Service Coordinator	
<ul style="list-style-type: none">• Primary support for customized hardware and software implementation in 540 Oklahoma school districts.• Hardware, networking, and application troubleshooting• Remote installation of software• Utilize Microsoft SQL for research and issue resolution• End-user training on hardware, software, and data quality	
	2002-2003
Retail Data Solutions - Tulsa, Oklahoma	
Field Technician	
<ul style="list-style-type: none">• Performed onsite installation of proprietary software• Established network and configured customer applications• Trained end-users on the utilization of product	

EDUCATION

B.A., Human Relations	2006
University of Oklahoma, Norman, Oklahoma	
Diploma, Computer Technology	2002
Vatterott College, Wichita, Kansas	

Lori Kimbrough, Customer Support Specialist
The Wave, Oklahoma Statewide Student Information System

EXPERIENCE

Oklahoma State Department of Education, the Wave
Customer Service Specialist 2008 - Present

- Problem solving utilizing a thorough knowledge of systems and applications for both the district and the Wave.
- Knowledge using Microsoft SQL for query writing, and issue resolution. Ability to write simple to more complex queries.

Oklahoma State Department of Education, State Aid
Financial Specialist 1998 – 2008

- Calculate, verify, post allocations for the State Aid Formula
- Prepare and coordinate State grant allocations
- Maintain County 4-Mill collections
- Verify, compare and recalculate statistical and financial information on attendance audits, flexible benefit allowance and class size date
- Prepare PowerPoint presentations
- Confirm the amounts used for allocation/payments are correct
- Assist in preparing and verifying data to use in legislative requests

EDUCATION

- Moore- Norman Career Tech, Bethany, OK
Accounting and Computer Information System Diploma 1996
Areas of Concentration: Accounting

Leslie Murry, Customer Support Coordinator
The Wave, Oklahoma Statewide Student Information System

EXPERIENCE

State Department of Education

10/2008 -
Present

Customer Support Coordinator

- Work in conjunction with staff, school districts, and vendors for testing and implementation for The Wave, Oklahoma's student information system
- Record all support calls and e-mails from users into the Help Desk tracking software
- Write clear instructions for department staff, school districts, and vendors
- Prepare requisitions for purchasing computer hardware and software
- Track employee leave and prepare report at the end of every month

07/07 – 10/08

Surgery Center of Midwest City
Accounts Receivable Specialist

- Process all insurance correspondence on a daily basis
- Assume responsibility to handle incoming insurance/patient calls
- Maintain current knowledge of coding and contracts for the Center
- Assume responsibility to prepare bank deposit daily

09/06 – 05/07

AMC Theatres
Operations Manager

- Provide direct supervision and guidance to crew members
- Perform daily opening and closing operational duties
- Reinforce guest and operational focus through MBWA (Management by Walking Around)
- Oversee the Food and Beverage Department of the theatre

02/99 – 09/06

Regal Entertainment Group
Senior Manager

- Develop crew members through guidance and training to achieve increasing levels of expertise
- Assist the General Manager with hiring, training, development, and appropriately disciplining theatre associates
- Ensure proper staffing in each area
- Oversee and complete theatre administrative reports
- Assist in achieving the guest service and financial goals associated with the Food and Beverage Department

EDUCATION

- Bachelor of Arts, Human Relations, University of Oklahoma

Aziz Elia, Chief Software Architect, Wave Contractor
Computer Power Solutions of Illinois

SUMMARY:

- Chief Software Architect for Computer Power Solutions of Illinois
- Project Management for state deployments
- Founder of CPSI

EDUCATION:

Bachelor of Science in Aircraft Maintenance Engineering, August 1980

Bachelor of Science in Biology/Chemistry, May 1978

Airframe and Powerplant License, May 1980

General Electric training at the Installation and Service Engineering Division (I&SE) which included Project Management, NRC (Nuclear Regulatory Commission) Certification, OSHA Safety Lead Training and Large Turbine Installation.

EXPERIENCE:

Chief Software Architect, October 1989 to Current

Computer Power Solutions of Illinois, Columbia, Illinois

- Currently architect of all CPSI software.
- Director of Development for CPSI software.
- Major designer and contributor for the first EDEN reporting via SIF Custom Data objects to the USDOE. This was performed for the state of South Carolina as a grant from the Perrot foundation.
- Project management for all large scale deployments at CPSI.
- Customer support.
- Hardware experience.
- Maintains CPSI's software vision and focus.
- Developed architecture for the Universal Agent Mapper and Data Extractor.
- Developed architecture for current Visual CASEL.
- Original developer of CASEL product (Classroom Administrative System for Educational LANS) a product that was designed to manage Netware and NT user accounts and user security. in 1999 Visual CASEL was developed for Windows 2000 Server Active Directory by request from Microsoft and the software won the best Active Directory product for the year. Visual CASEL is the largest Active Directory Management Software in the Nation. Over 3 million students accounts and security are managed by Visual CASEL.
- Developed architecture for software agents based on SIF.

- Writes technical documentation and design documents for multiple applications within the company.
- Developed a Data warehouse and clearinghouse software to manage the physical warehouse for millions of Paper forms used by Banks, Freight Companies, US Government agencies and much more. The forms were printed and stored and were shipped by request to clients. The software had to track the forms by Form Id and by sequential form Number. The software generated the shipping request the invoicing and the tracking process. This was developed for the Fresh Company in St Louis.

Co-Owner, 1985 to 1988

Sparks Tune Up Franchise

- General management.
- Designed software program for automotive repair facility.
- Basic troubleshooting for computerized vehicles.

Founder, 1984 to 1985

Third World Enterprises

- Designed ultra-light aircraft for crop spraying purposes.
- Worked on the design of an Ultra Volume Spray system unique in the world.
- Took solution to China for use by the Chinese government.
- Worked with the State Department in building documentation for project, which was not funded by the Chinese government.

Installation & Service Engineer, September 1980 to April 1984

General Electric Power Plant Division

- Project management for major power plant revitalizations and new installations.
- I&SE GE Engineer on Site for major outages at UE power plants in Missouri.
- Responsibility included Project Management, Union Relations, Technical Support, OSHA safety meetings. The average job exceeded 10 million dollars and was normally completed within 40 days.
- Major Jobs that I was responsible for:
 - Callaway nuclear Power Plant, MO. Installation of Reactor feed pump turbines.
 - Perry nuclear Power Plant, OH. GE Engineer Responsible for the quality of the field welds on the contaminated steam pipes.
 - These 2 jobs are listed because there was no room for error in their performance. Failure of a field weld would be catastrophic.

**Michelle Elia, President and Director of Operations, Wave Contractor
Computer Power Solutions of Illinois**

- SUMMARY:**
- President/Director of Sales for Computer Power Solutions of Illinois.
 - Project Documentation for state deployments.
 - Co-Founder of CPSI

EDUCATION:

Bachelor of Science in Aerospace Engineering, August 1981

Masters in Business Administration and Marketing, December 2006

Project Management Certificate, December 2008

EXPERIENCE:

**President and Director of Sales, February 1990 to Current
Computer Power Solutions of Illinois, Columbia, Illinois**

- Operational management of CPSI.
- Executive for Technical Support/Installation department.
- Write documentation, project plans, proposals, timelines, and statements of work for jobs/projects.
- Project management (documentation area) for all large scale deployments at CPSI.
- High-level customer support
- Hardware experience.
- Maintains CPSI's vision and focus.
- In charge of sales department.
- Develop pricing methods and price sheets for customer purchase.
- Assisted in the original development of CASEL product (Classroom Administrative System for Educational LANS)
- Writes technical documentation for multiple projects within the company.

Co-Owner, 1985 to 1988

Sparks Tune Up Franchise

- General management.
- Designed software program for automotive repair facility.

Co-Founder, 1984 to 1985

Third World Enterprises

- Designed ultra-light aircraft for crop spraying purposes.
- Worked with the State Department in building documentation for Chinese project, which was not funded by the Chinese government.

**Louis A. Eriquez, Ph.D., Directory of Systems Development, Wave Contractor
Computer Power Solutions of Illinois**

Synopsis of Experience

High degree of successful experience in all aspects of project management, software development, and program coordination. Managed and coordinated statewide education projects and enterprise level healthcare programs using interoperability protocols and standards. Project experience includes large-scale development projects for Oklahoma Department of Education, Georgia Office of School Readiness, Georgia Department of Education, and various healthcare projects including immunization registries. Background includes substantial experience in education data systems, healthcare software, and the development of a wide array of in vitro diagnostic products for the identification and detection of clinically significant microorganisms and associated computer algorithms.

Areas of Expertise

Project Management

Experienced in the implementation of large complex projects as well as management of the full software life cycle including client interaction and requirement gathering, system analysis, data modeling, application development, quality testing and client support.

Business Development

Coordinated and managed Request for Proposals (RFP) in educational data management for business development. Analyzed RFP opportunities for executive management and participated in the evaluation of business opportunities presented by RFP's. Wrote Company responses to proposals and coordinated professionals engaged in the preparation of RFP sections as well as insured the quality, applicability, and professionalism of the response documents.

Business Analysis

Served as primary business analyst in the development efforts of an educational suite of products and played a central role in defining, establishing and documenting vision and scope for the Company. Successfully defined requirements for the development of immunization registries in the health care business unit.

Application Development

Skilled in the development cycle, management, quality control, and specification of end user application software packages for the education and healthcare marketplace. Knowledgeable in design controls as well as international standards and other software

regulatory requirements. Five years plus experience in Microsoft .NET application development.

Programming

Over 15 years combined experience programming in machine language, BASIC, Visual Basic, Microsoft .NET, ASP.NET, and various development languages. Skilled in object oriented programming and experienced in application development, code development, complex algorithm design, database interface programming, GUI development, and web-based application development.

Relational Database

Experienced in relational databases including Oracle and Microsoft SQL.

Employment

<i>Current</i>	<i>Computer Power Solutions of Illinois (CPSI), Columbia, Illinois</i>
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Project Manager

Oklahoma Statewide Student Information System (The Wave) - The Wave is a state-of-the-art customized and secure electronic statewide student information system developed utilizing Schools Interoperability Framework technology. CPSI provides the WAVE with an end-to-end system to accept data from diverse applications while implementing quality data collection standards. The WAVE system operates in real-time, receiving and responding to electronic messages/data instantaneously.

<i>1999 - 2009</i>	<i>CORE Education and Consulting Solutions, Atlanta, GA</i>
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Project Manager

Oklahoma Statewide Unique Student Identifier System - Designed, developed, and implemented the CORE-ECS Unique Student ID Generator (COREUID) in Oklahoma as well as managed the state of Oklahoma unique student identifier Project. Effectively led the a development team that customized and integrated the COREUID into the data system for the assignment and management of all student identifiers for the state.

Product Manager

CORE Unique Student ID Generator - Managed a development team for the development of a licensed software product designed for integration into state education administrative systems. The COREUID creates and manages unique student identifiers and a master identifier database of all students K-12 who have received education services. The product enables compliance with state and federal regulations and provides the link necessary to facilitate the use of a wide variety of data sources.

Data Migration Program Manager for the Georgia Office of School Readiness (OSR) Pre-Kindergarten Software Development Project - OSR is responsible for the development, administration and payment/reimbursement for Georgia's Pre-K program, which is funded by the state lottery. ECS developed a custom software application to process applications, payments and track monitoring activities associated with the Georgia lottery-funded Pre-K program.

PRISM Immunization Tracking Software Product – PRISM is an immunization tracking and registry product suite. Managed the development of new vaccine scheduling requirements PRISM and defined GUI requirements and interfaces with information systems. Provided Company expertise in infectious disease management and other health related issues as well as identified and verified market opportunities for the expansion of our health-related products. Assisted in the training of the sales force to enhance team member credibility in the medical field.

1997–1999 *REMEL, Inc. Atlanta, GA*

Director, REMEL Atlanta Research and Development - Directed Research and Development activities, Technical Service Group. Responsible for Quality Assurance/ISO 9000 implementation for medical device and software packages. Developed, conducted multi-center clinical trials, achieved FDA permission to market microbial ID systems/software. Developed all associated computer ID software integrated into the *REMEL Electronic Code Compendium* and software interfaced into hospital lab database.

1994 –1997 *Innovative Diagnostic Systems (IDS), Ltd. Atlanta GA*

General Manager and Limited Partner - Managed partnership operations including fiscal, research and development, and technical service responsibilities. Developed and brought to market three new *IDS RapID* microbial identification products. Designed, coded, implemented and successfully brought to market a major diagnostic software application: *IDS Electronic Code Compendium (ECC)*.

1981 –1994 *Innovative Diagnostic Systems (IDS), Ltd. Atlanta GA*

President, Founder, Owner - Developed the *IDS RapID* line of microbial ID products that included over 16 devices as well as accessory reagents for the rapid ID of a wide variety of clinically significant microorganisms. Developed computer programs and algorithms used for the probabilistic ID of infectious diseases in conjunction with the *IDS RapID* line of devices.

Education

Ph.D. Microbial Biochemistry, St. Johns University, New York
M.S. Clinical Microbiology, St. Johns University, New York
B.S. Biology, Fairfield University, Connecticut

**Mark Reichert, Director of SIF Development, Wave Contractor
Computer Power Solutions of Illinois**

I am a very technically-oriented computer scientist with wide-ranging experience with regard to platforms, language, tools, technologies and standards (a partial list of related keywords follows)—having developed and/or maintained a variety of software projects, both large- and small-scale. My career experience has afforded me an intimate and sometimes unique knowledge of many standards and I have been instrumental in their implementation, development and/or improvement.

Apache • ASN.1 • ASP • BER • C • C++ • C# • CER • COBOL • cross-platform programming • database systems • data model development • DER • DNS • DOM • DTD • Fortran • full-text indexing/retrieval • GNU • Google Maps • HTTP • IIS • Internet Explorer • interoperability specification development • ISO 2022 • Java • Javascript • JSP • JUnit • LISP • Macintosh • mainframe/embedded systems • MySQL • .NET • NetBeans • Netscape • Novell Netware • ODBC • OpenSSL • PCS • PER • PERL • PHP • POP • Python • SAX • SharePoint • SIF • SMTP • SOAP • SQL • SQL Server • SSL • Sun ONE Studio • TLS • Tomcat • Unicode • URI • VBScript • Visual Studio • WebDAV • Windows • Xalan • XER • Xerces • XML • XML Schema • XPath • XQuery • XSLT • VeriSign • Z39.2 • Z39.50 • Z39.53 • Z39.58 • Z39.64 (EACC)

EXPERIENCE

CPSI, LTD., Columbia, IL (July 2008-Present) - Director of SIF and Data Integration
Mark is coordinating SIF standards into the product line at CPSI, setting the standards for CPSI for all newer SIF software development, and developing data modeling for statewide data integration and longitudinal data analysis projects.

SIF (Schools Interoperability Framework) ASSOCIATION, Washington, DC (2004-2008)
Chief Technology Officer

Coordinated volunteer development efforts on 1.5r1, 2.0, 2.0r1, 2.1 and 2.2 K-12 educational data interoperability specification in the US, and 0.9 and 1.0 specifications in the UK. Compiled and released related specifications and schemas, automating their generation and documentation in conjunction with the 2.0 specification development efforts. Developed and maintained online test harness/test suite for related specifications. Served as liaison between technical membership, Technical Board and Board of Directors. Served as technical resource to state data modeling efforts and to international data interoperability efforts in Europe and the UK. Engaged in ongoing national educational data modeling work with the U.S. Department of Education and National Center for Education Statistics. Presented at national and international education and technology conferences. Migrated collaboration tools from Yahoo Groups to SharePoint, custom developing listserv/alert capabilities, various data roll-ups and administrative shortcuts, automated joining of sites. Implemented event management system and online credit card processing. Web site and related online and database development and maintenance.

MANDARIN LIBRARY AUTOMATION, INC., Boca Raton, FL (2003-2004); Senior Software Engineer and SIRS MANDARIN, INC., Boca Raton, FL (1996-2003); Senior Software Engineer

Supported Mandarin library automation system purchased by SIRS, Inc., eventually providing Z39.50 standard interface to the system, implementing ASN.1, BER/CER/DER and MARC libraries. Integral in reviewing and implementing the NISO Z39.50 version 3 standard. NISO voting member and Unicode member. Provided feedback and aided Library of Congress in integrating Unicode into MARC record standards. Developed server side of and client framework for new Z39.50-based Mandarin M3 library automation system, creating cross-platform data engine for full-text indexing and keyword retrieval of MARC records. Developed client-side cataloging and public catalog modules, including web gateway. Authored ODBC-, HTTP-, WebDAV-, and Z39.58-compliant interfaces to library system. Worked with vendors in integrating third-party database and meta-search products into library system. Made sales presentations and demonstrated system in Germany, contributing to sales staff training in new Berlin office. Participated as a member in the Schools Interoperability Framework and contributed toward public release of the 1.1 specification. Implemented SIF framework and agent for library system, implementing HTTP, TLS and XML standards, eventually achieving SIF certification. Transitioned Windows-, Macintosh- and Netware-based server and client software to a Web-based suite of products.

SIF (Schools Interoperability Framework) ASSOCIATION, Washington, DC (2001-2004)
Member/Co-Leader

Provided in-depth review of the 1.0 and 1.0r1 K-12 educational data interoperability specifications. Elected to co-leader of the Infrastructure working group. Administered specification issues list and cooperated in resolving outstanding issues with the specification. Instrumental in editing and shepherding the specification and schemas to their public 1.1 release. Maintained specification schemas. Presented technical overviews of the specification for new members. Formulated compliance test suite and implemented on-line test harness. Cooperated with The Open Group in developing and administering the formal compliance program. Supported member company technical staff in moving products toward compliance. Awarded inaugural SIF Fellowship Award for contributions to the organization. Coordinated Infrastructure working group efforts in version 1.5 specification.

SIRS (Social Issues Resources Series), INC., Boca Raton, FL (1995-1996)
Software Engineer

Developed animated multimedia library guide for k-12 students in cooperation with the oryx press. Evaluated and improved database system software for cd-rom products, eventually creating significantly faster cross-platform keyword indexing system for full-text articles.

SOFTWARE CONCEPTIONS, INC., Indianapolis, IN (1995); Consultant and
QUE CORPORATION, Indianapolis, IN (1995); Co-Author
Co-authored *Special Edition Using Borland C++ 5* with Paul Kimmel of Software Conceptions, primarily focusing on object-oriented design/programming chapters. Instructed legacy COBOL programmers in ANSI C, C++ and object-oriented design at a number of major banking companies.

SIEMENS STROMBERG-CARLSON, BOCA RATON, FL (1994-1995); MEMBER,
TECHNICAL STAFF

Feature team co-leader for Personal Communications Services (PCS). Coordinated company-wide development resources to deliver initial PCS implementation on schedule. Additional responsibilities included system design, coding, off-line, integration and system testing of PCS administration issues. Also maintained legacy X.25 network management applications.

MICHIGAN STATE UNIVERSITY, East Lansing, MI (1991-1993); Teaching/Research Assistant

Authored HyperCard-based multimedia courseware entitled "German for Business & Economics" for CD-ROM publication. Developed pilot interactive video and computerized adaptive testing projects for future release. Taught first- and second-year German sequences. Completed technical translations for corporate legal and engineering clients. Presented academic conference papers on computer-assisted language learning.

SIEMENS AG, Munich, Germany (1991-1992); System Software Developer

Implemented software "lint" tests for programming conventions to ensure worldwide portability of Siemens' software. Researched, documented and coded an improved hashing algorithm, reducing "collisions" and increasing system performance by 25 percent. Expanded and automated mainframe applications for source library management.

OLSTEN TEMPORARY SERVICES, Milwaukee, WI (1985-1990); Data Processing Specialist
Collaborated with various levels of client management in deploying advanced word processing, database and spreadsheet feature use across a broad user base. Awarded "excellent" ratings and bonuses from over 25 major clients.

BRIEN LEE & COMPANY, Milwaukee, WI (1986-1988); Storyboard Artist

Communicated with upper management of client firms to visualize and realize creative ideas. Assisted production team in developing award-winning corporate image and training videos.

EDUCATION

FLORIDA ATLANTIC UNIVERSITY, Boca Raton, FL

Master of Science Coursework in Computer Science (1995) - 3.8/4.0 GPA, 3.8/4.0 Major GPA

MICHIGAN STATE UNIVERSITY, East Lansing, MI

Bachelor of Science in Computer Science (1993) - 3.5/4.0 GPA, 3.8/4.0 Major GPA

Master of Arts Coursework in German (1991-1993) - 4.0/4.0 GPA, 4.0/4.0 Major GPA

Bachelor of Arts in German (1990) - 3.4/4.0 GPA, 4.0/4.0 Major GPA

Computer science coursework encompassed advanced topics such as microprocessor architecture, operating systems, database systems, computer networks, concurrent systems, massive parallelism, artificial intelligence and computer graphics. Areas of emphasis in German included business German and computer-assisted language learning. Cognates in mathematics, general business, art history and studio art. Overseas study at Albert-Ludwigs-Universität in Freiburg, Germany.

ROBERT NGUEPSI, Senior Developer, Wave Contractor
Computer Power Solutions of Illinois

EXECUTIVE SUMMARY

A Software Engineering Professional since a couple of years. Background includes Object-Oriented and Component-Oriented Design and Development in the areas of Internet/Intranet, Bankcard-Systems, Inventory Control, Transportation, Telephony, Bar Coding, Health Care, Government, Banking and Expert Systems. Expertise spans multi-tier Enterprise Component Architectures and Distributed Object Computing. Responsibilities have included the entire gamut of the Software Engineering project life-cycle including Analysis, Design, Development, Quality Assurance and Deployment.

TECHNICAL EXPERTISE

Languages	C#, VB.Net, ASP.Net, Visual Basic, PowerBuilder, VBScript, Delphi, Visual C++, HTML, DHTML, Pascal, C, SQL, JAVA, Perl, JavaScript, COBOL, XML
Operating Systems	Windows XP, Windows 2000, UNIX, Windows NT
Database	SQL Server, Oracle, DBASE, Sybase, MS Access, Paradox, Visual FoxPro
Tools	UML, Business Objects, Crystal Reports, ERwin, Code Wright, InstallShield, RoboHelp, Microsoft Visual SourceSafe, Microsoft Project, True DBGrid, PVCS, Visio
Other	ADO, DAO, ODBC, TCP/IP, Groove

PROFESSIONAL EXPERIENCE

CPSI, Ltd - Columbia, IL

06/2005 - Present

Senior Programmer Analyst

The ODS (Operational Data Store) also known as the Data Warehouse, the Subscription Agent and the TDS(Transactional Data Store) are powerful strategic tools providing the following features:

- Extraction of data from SIF messages
- Storage of extracted data in a database (MS SQL, Oracle, etc.) for vertical or horizontal analysis
- Confidential reports on current operational data

Responsibilities include conceptualization, analysis, design, prototype, development, security, QA training and delivery of the entire product to various customers(Maine, New York, Nashville etc..).

- Currently implementing the SIF 2.0 version
- Boosted performance by Analyzing, designing and implementing the multithread
- Designed and implemented the main engine using API from team members
- Designed and integrated security features
- Maintained and integrated the support for Custom Data Objects
- Designed and implemented the Subscription Agent for low budget customers
- Implemented a FAQ assisting users in resolving issues

Environment: Visual Studio 2005 (C#, ASP.Net), SQL Server 2005, Microsoft Visual SourceSafe, Visio, Windows XP, Groove, Outlook, Cisco Systems VPN Client, NUnit-Net, Team System.

Senior Programmer Analyst

The Maine Financial System also known as MEDEMFS is a tool developed by CPSI and used by state of Maine providing the following features:

Submission of financial data (Expenditure, Revenue and Balance sheet) by multiple districts in text form

Collection and storage of these financial data in SQL Server

Validation of these data using the CPSI rules based xDValidator

Report on errors and warnings

Ability to correct and/or override errors

Migration of complete and error free data for later vertical or horizontal analysis

Responsibilities include conceptualization, analysis, design, prototype, development, security, integration, QA training and delivery of the entire product.

Environment: Visual Studio 2005 and 2008 (C#, ASP.Net), SQL Server 2005 and 2008, Microsoft Team Foundation Server, Visio, Windows XP, Groove, Outlook, Cisco Systems VPN Client, NUnit-Net.

Project Lead

The LHRIC System is a student tracking tool used to collect data from four districts. The implementation was done using SIF Custom Data Object (CDO).

The system provides the following features:

Mapping of student data from different format and from different districts to SIF elements

Collection and storage of these data in SQL Server

Validation of these data using the CPSI initial Rule Engine

Web Reporting on errors and warnings

Responsibilities included leading the analysis, design, prototype, development of multi level rules, security, integration and training.

Environment: CPSI ZIS server, CPSI Mapper, CPSI Datawarehouse, Visual Studio 2005 (C#, ASP.Net), SQL Server 2005, Microsoft Source Safe, Visio, Windows XP, Groove, Outlook, Cisco Systems VPN Client, NUnit-Net.

EDUCATION

University of Northern Iowa

BA in Computer Science

MA in Computer Science (pending)

ADDITIONAL COURSE WORK:

Certified Visual Basic Developer

Certificate of completion Java curriculum

Project Narrative

Project Narrative - Appendix C Current Status of State's Longitudinal Data System







Attachment 1:

Title: **Appendix C Current Status OKLDS** Pages: **11** Uploaded File: **Appendix C Current Status OKLDS .pdf**

Oklahoma State Department of Education, The Wave

Core Elements Completion for Establishing a Statewide Longitudinal Data System

The following checklist helps to identify the status of core elements for establishing a statewide longitudinal data system, designed to serve as a decision support system. It helps to map and detail which core elements have been completed by the State Education Agency (SEA); which have been funded and are in the process of being completed; which are planned and funded to be completed in the future; which are desired by the SEA but do not have available funding; which are not desired; and for which the SEA is currently trying to locate/secure funding.

Core Elements for Establishing a Statewide Longitudinal Data System	Detail Description					
	Completed	In Process	Planned and Funded	Desired/lack Funding	Not Desired	Desired/ Seek Funding
1. Analysis of business needs (multiple reporting and decision support needs) of key stakeholders, including the State, districts, school boards, schools, teachers, parents, students, the public, and other constituents.						 The Wave has completed analysis with the districts, but work still needs to be completed with respect to other agencies and other stakeholders.
2. Cataloging current and planned local data collection methods and data structures.						 The data collection for the Wave is completed for 12 data objects, but we need funding for completing and cataloging other data. The collection method has been decided upon.
3. Designing statewide longitudinal data systems architecture						
a. Including in data model the business needs of key stakeholders, who participate as data providers and users, and whose needs should determine the data types and items to be						 The Wave has completed the designed its' SLDS with the district data, along with data

maintained in the system, years of data maintained, and data quality achieved (all of which define the breadth and depth of subsequent possible analyses)								quality processes. Funding needed to expand collections and to add other agency data to form the P-20 LDS.
b. Developing effective data quality assurance system, that contains:								
i. Data dictionary, with well defined content and common definitions for data elements, to assure the same definitions, codes, and periodicity across all schools in the State, at data entry points.	✔						✔	This has been completed for the Wave only.
ii. Business rules for data format, acceptable values, missing data options, and logical comparisons to prior data	✔						✔	This has been completed for the Wave only.
iii. Automated data edit processes to verify data quality and to ensure that rules are met before allowing data into the State's data system	✔							
iv. Systems and procedures to assure correct utilization of data by the users and providers							✔	xDTools
c. Developing an effective, statewide data model that defines and describes the logical and physical relationships between data items and systems, and system structure that allows efficient data maintenance and retrieval (containing relevant and linked current and historical data)		✔					✔	This has been completed for the Wave only.
d. Assuring secure access to data and formal reports to protect the confidentiality of individuals, in compliance with FERPA and the statistical reliability of results	✔							
e. Structured to enable efficient data extractions for time-based analyses	✔							
f. Allowing modifications and enhancements to the systems' data and architecture, including system expansion over time.	✔							
4. Creating, assigning, and tracking a unique permanent student identifier assigned at state level								
a. Allowing the matching of individual student records	✔							

across databases and years for every student enrolled in preK-12 state education system (using an automatic system creation of IDs or an individual creation through direct online interaction with ID system)									
b. Allowing for program evaluation (including potential capacity to track students past the 12 th grade)									This has been completed for K-12 (the Wave) only, and only for certain programs.
c. Allowing for student record transfers among States when students move across state borders (requiring inter-state agreements and compliant with FERPA regulations)									
5. Planning and implementing data collection									
a. From districts and/or schools so that the SEA can incorporate data in the system for all students, classrooms, and schools under the SEA's jurisdiction including:									
i. Development of collaboration among all parties within the SEA and between the SEA and the school districts in data collection, reporting, and dissemination									
ii. Provisions for the needs of districts that have limited ability to participate in technology systems									
b. Conducting cost/benefit and sustainability analyses of dynamic vs. static data extraction systems (data entered directly by school personnel into the statewide system, with instantaneous error feedback vs. data files imported from districts on a periodic basis)									
c. Shortening reporting time and increasing the accuracy of student assessment data (e.g. through technology-based assessments)									Current school year is first year for Precode of student information for state assessment Grades 3-8
6. Implementing statewide longitudinal data system (warehouse)									
a. Development of the system according to the designed architecture									
b. Testing the system									

c. Going live	✓								
7. Designing, using, and maintaining business intelligence tools (analytical and reporting)									
a. Streamlining reporting capabilities to state, local, and federal agencies, using pre-defined, automated reports (including EDEN, NCLB, NCES, and the public)	✓							✓	Reporting capabilities have been streamlined using a SIF communication method and automation between the LEA's and the SEA, but work needs to be done to complete the automated reporting to other agencies.
b. Supporting:									
i. Multiple reporting and analyses needs of different stakeholders		✓						✓	The reporting and analyses has begun, but more funding is required to complete this process for all stakeholders.
ii. High-level longitudinal analyses, required for data-driven decision making by policymakers, educators, and members of the public		✓						✓	This process has been completed for some members of the SEA, but more work needs to be completed to provide this function to all stakeholders.
c. Providing timely, accurate, and user-friendly dissemination of the needed data, reports, and analyses reports to:									
i. Parents/guardians and students								✓	
ii. Teachers		✓							
iii. Schools		✓							
iv. District Administrators		✓							
v. State officials and administrators		✓							
vi. Universities/colleges and the business community								✓	
vii. The public								✓	

d. Engaging in longitudinal education research to inform policy and decision making										Longitudinal data system – Data Marts
e. Leading the State, districts, and teachers in the development and use of innovative analytical tools and reports to inform policy and decision making										xDTools; Training
8. Establishing logistical capacity to create and maintain a statewide longitudinal data system										
a. Developing efficient administrative processes, infrastructure components, and policy commitments for effectively implementing the maintenance of the statewide longitudinal data system, regarding:										
i. Assuring continued data collection and quality										
ii. Assuring continued dissemination of data and analyses results										
iii. Assuring data security and confidentiality, including addressing potential concerns of stakeholders about student privacy in automated systems										
iv. Assuring continued funding										
v. Assuring continued adequate human resources										
vi. Assuring continued enabling legislation										
vii. Assuring the continued adequacy of hardware, software, and networking capabilities.										
b. Assuring sustainability and effectiveness of the system by:										
i. Assuring administrative buy-in										
ii. Assuring qualified staff, training, technical, and other resources dedicated to the State's administrative technology over the long term to ensure the system's continued effectiveness (including the commitment and ability of staff to implement, use, and continually develop the state system)										
iii. Developing a strong plan for the SEA and other stakeholders to continually evaluate and improve the										

effectiveness of the data system and of associated processes, both in their reporting and decision-support functions and to periodically assess the degree to which they meet agency and other stakeholders needs										
c. Involving and supporting stakeholders by establishing and/or facilitating the existence of:										
i. A policy advisory committee that includes representatives from each key stakeholder group	✓									
ii. A data provider/collection group	✓									
iii. A data user group									✓	
iv. An internal agency coordination group to oversee data collection, management, and dissemination									✓	
d. Planning and funding initial and ongoing, efficient, and effective training of key state and local data collectors and users, according to their functional needs, on:										
i. Data entry, Cleaning, and Transfer	✓								✓	This is completed for the Wave only.
ii. Data Extraction	✓								✓	This is completed for the Wave only.
iii. Unique Student ID System	✓								✓	This is completed for the Wave only.
iv. Business Intelligence Tools and use of data for decision making							✓		✓	Expand software to all stakeholders

The 4 Assurances from the State Fiscal Stabilization Fund

A state receiving funds under the Stabilization program is required to provide assurances in four key areas of education reform:

	1. Achieving equity in teacher distribution*	2. Improving collection and use of data*	3. Standards and assessments*	4. Supporting struggling schools*
P M & Systems Integration	✓	✓	✓	✓
Data Warehouse & P20 LDS	✓	✓		
The Wave Enhancements	✓	✓	✓	✓
Higher Education Data Quality Improvement		✓	✓	
Electronic Records & Transcript Exchange		✓	✓	
Pre-Kindergarten Data Quality Improvement		✓	✓	
Workforce Data Quality Improvement		✓	✓	
Careertech Data Quality Improvement		✓	✓	
Governance	✓	✓	✓	
Standards	✓	✓	✓	✓
Evaluation	✓	✓	✓	✓
Training and Support	✓	✓	✓	✓

The 12 Required Data System Elements from the America COMPETES Act

A data system developed with funding obtained pursuant to this grant competition must include at least these 12 elements:

	1. IDs	2.Stud. Data	3.Exit Data	4.HE Comm.	5.Audit System	6.Assmt	7.Non- Tested	8.Teach ID	9.Tran.	10. ACT	11.HE Trans.	12.HE Succ.
PM & Systems Integration	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Data WHouse/P20 LDS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
The Wave Enhancements	✓	✓	✓	✓	✓	✓	✓	✓	✓			
HE Data Quality Improvement	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓
Electronic Rec & Trans Exch	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
Pre-K DQ Improvement	✓	✓	✓		✓							
Workforce DQ Improve	✓	✓	✓		✓							
ODCTE DQ Improvement	✓	✓	✓	✓	✓	✓		✓			✓	

Governance	✓	✓		✓						✓	✓	✓	✓
		✓		✓							✓	✓	✓
Standards		✓		✓									
Evaluation	✓	✓		✓									
Training and Support	✓	✓		✓									

The 7 Required Data System Capabilities from the LDS American Recovery and Reinvestment Act

A statewide LDS developed with funding obtained pursuant to this grant competition must have the following seven capabilities:

	1. PK HE Workforce	2. Data Exchange	3. Student Teacher Link	4. Teacher Certification	5. Data for Improvement	6. DQ Integrity	7. EDFacts
PM & Systems Integration	✓	✓	✓	✓	✓	✓	✓
Data Warehouse & P20 LDS	✓	✓	✓	✓	✓	✓	✓
The Wave Enhancements	✓	✓	✓	✓	✓	✓	✓
HE Data Quality Improvement	✓	✓		✓		✓	
Electronic Records & Transcript	✓	✓	✓	✓		✓	
Pre-K DQ Improvement	✓	✓			✓	✓	
Workforce DQ Improvement	✓	✓				✓	
ODCTE DQ Improvement	✓	✓	✓	✓	✓	✓	✓

Governance	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓
Standards	✓	✓	✓	✓	✓	✓	✓
Evaluation	✓	✓	✓	✓	✓	✓	✓
Training and Support	✓	✓	✓	✓	✓	✓	✓

Project Narrative

Project Narrative - Appendix D Letters of Support

Attachment 1:

Title: **Appendix D Letters of Support** Pages: **9** Uploaded File: **Appendix D Letters of Support OKLDS.pdf**

11.17.09



Sandy Garrett, State Superintendent of Public Instruction
Barbara Roewe, Project Manager, Oklahoma Statewide Student Information System
Oklahoma State Department of Education
2500 North Lincoln Boulevard
Oklahoma City, Oklahoma 73105-4599

Dear Superintendent Garrett and Mrs. Roewe:

I am delighted to support the Oklahoma Department of Education's (ODOE) application to the U.S. Department of Education for a State Longitudinal Data Systems grant. We understand that the goal of this grant is to successfully develop and implement a longitudinal data system that permits the generation and use of accurate and timely data for informed decision-making at all levels of the education system. The SIF Association, since its inception, has been focused on allowing the identification, management, movement and utilization of data at all levels of the educational "pipeline". This proposal exemplifies that focus and makes real the possibilities that can occur by utilizing community developed, open technical data standards such as developed by the SIF Association community.

Our community is pleased that you are working to establish a system that has the capacity to link information about individual students across time and across databases--including K-12, postsecondary, and work force--while protecting students' privacy consistent with applicable privacy protection laws.

I commend ODOE for the steps that you have already taken to build the Wave Statewide Student Information System that allows for real-time student level data collection using the SIF standard. The Wave has been a pioneer in the utilization of the SIF standard as a means for data collection. If the grant is funded, I will be happy to work with ODOE and other project partners in continuing the development of a longitudinal data system that will provide information to address policy issues and program performance questions across all levels of Oklahoma's education system, as well as in work force and economic development contexts.

Best wishes for a successful grant application!

Sincerely,

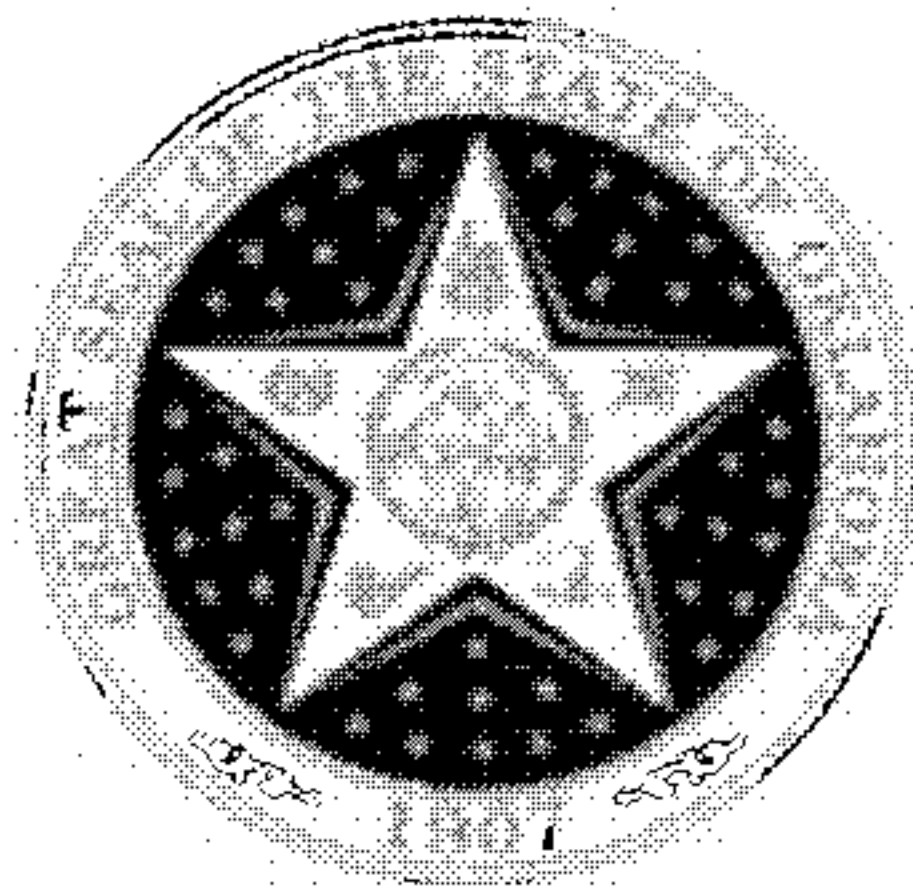
A handwritten signature in black ink, appearing to read "Larry L. Fruth II".

Larry L. Fruth II, PhD
Executive Director
Schools Interoperability Framework Association

Oklahoma Senate

Clark Jolley
Republican Whip

512 State Capitol Building
2300 North Lincoln Boulevard
Oklahoma City, OK 73105
(405) 521-5622 - Telephone
(405) 521-5784 - Facsimile
jolley@oksenate.gov - E-mail
www.clarkjolley.com - Web



District 41
Edmond, Oklahoma City and
Southern Logan County

Committees:
Appropriations
Co-Chairman, Subcommittee on Education
Education
Public Safety & Homeland Security
Retirement & Insurance

November 23, 2009

Sandy Garrett, State Superintendent of Public Instruction
Barbara Roewe, Project Manager, Oklahoma Statewide Student Information System
Oklahoma State Department of Education
2500 North Lincoln Boulevard
Oklahoma City, Oklahoma 73105-4599

Dear Superintendent Garrett and Mrs. Roewe:

Please consider this as a letter of full and unequivocal support for Oklahoma's application to receive federal ARRA funding to complete our longitudinal data system. As the principal author of Senate Bill 222, which calls for all three educational agencies to coordinate their systems and processes to each other for the utmost in adaptability and usability for data collection and harvesting, I am very much aware that despite the plight of our state budget, there is only one hope for funding to accomplish our goals – the ARRA funds.

The goal behind Senate Bill 222 was and still is to see Oklahoma move to the top of the pack along with Florida and Arkansas in achieving data collection which helps those of us in policy making jobs base our decisions off of sound research and proven policy based on research and student achievement rather than off of postulation and speculation as to what should work.

Thank you for the opportunity to stand in support of creating a data system which will maximize state resources and help us spend our monies more wisely.

Sincerely,

A handwritten signature in black ink, appearing to read "Clark Jolley", is written over a horizontal line.

Clark Jolley
Assistant Majority Floor Leader
Chairman, Health & Human Services
District 41

CJ:om



The University of Oklahoma

UNIVERSITY RESEARCH CABINET

December 1, 2009

Sandy Garrett, State Superintendent of Public Instruction
Barbara Roewe, Project Manager, Oklahoma Statewide Student Information System
Oklahoma State Department of Education
2500 North Lincoln Boulevard
Oklahoma City, Oklahoma 73105-4599

Dear Superintendent Garrett and Mrs. Roewe:

The Oklahoma P-20 Data Coordinating Council was established by the 2009 Oklahoma Legislature in Senate Bill 222. The Council is charged with the responsibility to advise the State Department of Education, the State Regents for Higher Education, the Department of Career and Technology Education, the Office of Accountability, the Oklahoma Employment Security Commission, the Legislature and the Governor on coordination of the creation of a unified, longitudinal student data system to provide interoperability and efficient and effective storage, use and sharing of data among the State Department of Education, Oklahoma Department of Career and Technology Education, Oklahoma State Regents for Higher Education, Legislature, other policymakers and executive agencies, and the general public.

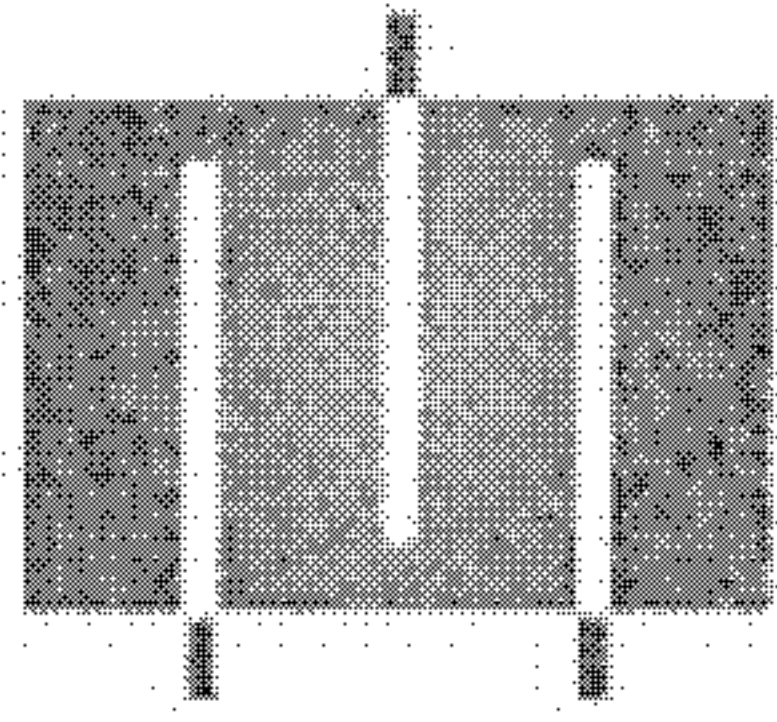
Activities of the P-20 Data Coordinating Council are closely aligned with the proposed Oklahoma Longitudinal Data System.

Sincerely,

A handwritten signature in cursive script that reads "Paul G. Risser".

Paul G. Risser, Chair
P-20 Data Coordinating Council





MUNICIPAL
ACCOUNTING SYSTEMS

908 East 35th Street
P.O. Box 1325
Shawnee, Oklahoma 74802

Tel: 405.275.5690
Fax: 405.275.7091
www.wengage.com

November 23, 2009

Sandy Garrett, State Superintendent of Public Instruction
Barbara Roewe, Project Manager, Oklahoma Statewide Student Information System
Oklahoma State Department of Education
2500 North Lincoln Boulevard
Oklahoma City, Oklahoma 73105-4599

Dear Superintendent Garrett and Mrs. Roewe:

We were excited to learn that the Wave is applying for the P-20 statewide, longitudinal data system grant under the American Recovery and Reinvestment Act of 2009 and wanted to convey our support for your agency in this endeavor.

The Oklahoma Legislature's decision to implement a Schools Interoperability Framework (SIF[®]) solution for collecting and aggregating student data at the state level has continued to produce positive results for education in Oklahoma. School districts across our state have witnessed a dramatic increase in data accuracy, availability, and accountability, since the initial implementation of the Wave project. The experience and successes you have gained with the current P-12 data system will provide a solid foundation for the expansion and ultimate success of a P-20 data system.

Municipal Accounting Systems, Inc. is an active member of the Schools Interoperability Framework Association (SIFA) and believes this vendor-neutral standard is the cornerstone for aggregating student data at the state level. Municipal Accounting Systems, Inc. has implemented over 400 SIF Agents that are successfully reporting student data to the Wave. In collaboration with SIFA and the Wave, we also served on a committee to develop the first SIF state profile. Soon after its adoption, Municipal Accounting Systems, Inc. became the first vendor to certify with the SIF Oklahoma Profile.

As a student information software vendor based in Oklahoma, our primary commitment is to provide our customers with the tools necessary to effectively and efficiently meet all state and federal reporting requirements, including those of the Wave project. Municipal Accounting Systems, Inc. will play an advocate and partnership role in supporting a P-20 statewide, longitudinal data system. Municipal Accounting Systems, Inc. will be actively involved in partnering with the Wave and other Oklahoma agencies to support the implementation and success of this project and the continued improvement to the quality of education in Oklahoma.

In order to stay on the forefront of education, resources and funding are essential. The benefits offered through this grant would allow the Wave and other Oklahoma agencies to work closely with Oklahoma school districts and their student information system vendors in a more productive and efficient timeline. We believe that with adequate funding, the P-20 statewide, longitudinal data system will become a reality and success for Oklahoma school districts in the near future.

Sincerely,

Pam Humphrey
President
Municipal Accounting Systems, Inc.

SIF and Schools Interoperability Framework are registered trademarks of the Schools Interoperability Framework Association.
All other trademarks and logos are the property of their respective corporate owners.

PEARSON

Pearson

10911 White Rock Road
Rancho Cordova, CA 95670
Telephone: 916-288-1600
Fax: 916-288-1585
www.PearsonSchool.com

December 2, 2009

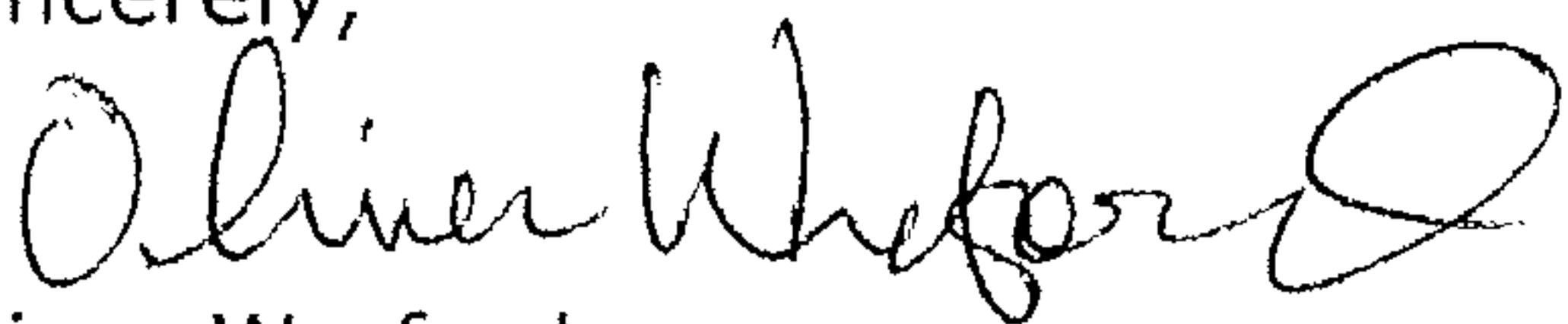
Sandy Garrett, Barbara Roewe, Glynn Ligon
Oklahoma State Department of Education

Dear Ms. Garrett & Ms. Roewe:

I spent some time talking with Dr. Glynn Ligon about the Oklahoma State Department of Education's proposal for a grant, for a statewide longitudinal data system, under the American Recovery and Reinvestment Act of 2009. Based on the conversations I have had with Dr. Ligon, Pearson's ongoing commitment to our Oklahoma customers and to The WAVE Project, I want to let you know in that I am excited about the enhancements that you all are pursuing via this grant application and I am pleased to write this letter of support for the proposal.

Pearson will continue to work to with schools and districts in Oklahoma and the Oklahoma State Department of Education to ensure our Student Information Systems support Oklahoma State reporting and/or Longitudinal Data System Initiatives. In addition, we see opportunities for an improved experience for all involved parties with the proposed SIF SIS test laboratory that we understand will be part of your grant proposal. We believe this approach would allow Pearson, school districts and other participating SIS vendors to fine-tune SISs, SIF agents, and the overall process for exchanging data between schools and the OK Department of Education and we will work to support this effort and to help ensure the objectives of your grant proposal are successfully carried out.

Sincerely,



Oliver Wreford
Director of State Solutions
Pearson School Systems

November 23, 2009

Ms. Sandy Garrett, State Superintendent
of Public Instruction
Ms. Barbara Roewe, Project Manager
Oklahoma Statewide Student Information System
State Department of Education
4500 North Lincoln Boulevard
Oklahoma City, OK 73105-4599

Dear Superintendent Garrett and Ms. Roewe:

It is my distinct pleasure to write a letter in support of the Oklahoma Statewide Longitudinal Student Information Systems application for a Recovery and Reinvestment Act of 2009 grant. The Oklahoma Department of Career and Technology Education plans to work in conjunction with other educational entities to cooperatively utilize longitudinal data for the purpose of improving high school graduation rates and increasing postsecondary credentials—certificates, licenses, and degrees.

The advantages of being able to access data from one source on students in common education, career and technology education, and higher education are many. We can determine trends that will in turn be useful for research and planning, and the improved quality of the data will contribute to the success of our students as they move through the Oklahoma education system. The ability for our three education entities to blend and share student data across the board will create a partnership between the agencies that will greatly enhance education for P-20 students.

We appreciate the opportunity to share our support of the Wave. Please feel free to call on me or other agency staff for further support of the implementation of this grant.

Sincerely,



Phil Berkenbile, Ed.D.
State Director

1500 West Seventh Avenue
Stillwater, OK 74074-4364
www.okcareertech.org
(405) 377-2000 • Fax: (405) 743-6809



December 3, 2009

State Superintendent Sandy Garrett
Oklahoma State Department of Education
2500 North Lincoln Boulevard
Oklahoma City, Oklahoma 73105-6205

Dear Superintendent Garrett:

Please accept this letter of support for the proposal related to seeking funding for the development of a P-20 Longitudinal Data System for the State of Oklahoma. The Oklahoma Association of Colleges for Teacher Education (OACTE) is comprised of education deans/directors/chairs from the 22 institutions, public and private, which prepare teacher candidates in our state. The state accreditation system supervised by the Oklahoma Commission for Teacher Preparation (OCTP) closely mirrors the accreditation process for the National Council for the Accreditation of Teacher Education (NCATE) since Oklahoma is an NCATE partnership state. As you are aware, data and the analysis of data play a key role in the accreditation process for teacher education programs, as it provides us with an objective picture of the effectiveness of our programs.

OACTE has been in dialogue for several years with representatives from various agencies including the Oklahoma State Regents for Higher Education, your office, and the Oklahoma Commission for Teacher Preparation about how we can improve our data systems for linking P-12 student performance data to graduates from our teacher preparation programs. Such a system would prove invaluable as it would allow us utilize P-12 student performance data as a measure of the effectiveness of our program graduates once they enter the teaching profession. We understand that at the present time, some components of the system have been put in place, but additional funding will be required in order to complete the data collection system. We recognize that funds are not currently available through the state budget process due to decreased revenue collection for the past two years, and there is little expectation that the funds will be available in the upcoming year as well. For this reason, we support seeking external funding sources that will assist completion of the longitudinal data system project.

Please feel free to contact me at (405) 208-5374 or at llbrown@okcu.edu if you require any additional information or assistance. Thank you for your consideration of the viewpoint of Oklahoma teacher education programs.

Sincerely,

Lois Lawler-Brown, Ph.D., NBCT
President, Oklahoma Association of Colleges for Teacher Education



CPSI, Ltd.
235 Southwoods Center
Columbia, IL 62236
michelle@vcasel.com
618-281-8898

December 2, 2009

Sandy Garrett, State Superintendent of Public Instruction
Barbara Roewe, Project Manager, Oklahoma Statewide Student Information System
Oklahoma State Department of Education
2500 North Lincoln Boulevard
Oklahoma City, Oklahoma 73105-4599

Dear Superintendent Garrett and Mrs. Roewe:

Along with the Oklahoma State Department of Education (OSDE), CPSI is dedicated to the collection and use of accurate and timely data. This data allows for informed decision-making at all levels of the education system in order to support the continuous improvement of student achievement. We feel that the timely use and analysis of this data will support the growing needs of Oklahoma's children, students, and future workers.

We have been working as part of the Wave team to develop this data collection system for the past five years, and the LDS for the past year. In this time, we have seen the system grow and mature, and have been pleased to see that the staff at the Wave is able to manage the system and its growth effectively without constant hand-holding from CPSI. We believe that this builds sustainability for the project that is unequalled in most state LDS systems.

As the sole source provider for the Wave and LDS implementation at the OSDE, CPSI has had the opportunity to view first-hand the Wave's commitment to accurately collect, manage, validate, and report on student data. CPSI also has made that same commitment to the project at hand, and to the P-20 LDS which will be developed if the OSDE is awarded this grant.

CPSI stands ready to commit all of the resources and processes necessary to assure that the P-20 LDS is delivered within the budget and within the three-year time frame of the grant. We have begun the work, and the base infrastructure is in place. Once the OSDE acquires the funding from the grant, we can begin the process of ensuring that CPSI completes its part of the LDS ARRA "7 Required Data System Capabilities", the "12 Required Data



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System Elements" from the America Competes Act, and work with the OSDE to complete the "4 Assurances" stated from the SFSF.

CPSI has exhibited a firm commitment over the past few years, and will continue to commit resources, time, and effort as the system grows.

Thanks and Regards,

Michelle Elia, President

Budget Narrative

Budget Narrative - Budget Justification

Attachment 1:

Title: **Budget Narrative Justification OKLDS** Pages: **33** Uploaded File: **Budget Narrative Justification OKLDS.pdf**

Budget Narrative

Contractual

Funding Source	Amount	Justification
<u>Component 1: Project Management and Systems Integration</u>		
Year 1–Grant	\$287,500	Project Management & Systems Integration Expertise: The SDE will contract for an on-site PMP certified Project Executive and 2 project managers who will oversee the OKLDS Project. Detailed project management documentation encompassing the Project Initiation Phase, the Project Planning Phase, the Project Execution Phase, and the Project Closure Phase will be developed by this team with approval from the participating agencies and the governing groups. Full PMI project management methodology will be followed to ensure the deliverables and objectives described in this application are fully delivered. (Project Executive = \$125,500; 1 Project Managers and Content Experts/Architects \$81,000 X 2 = \$162,000)
Year 2–Grant	\$301,875	Project Management & Systems Integration Expertise: The project management team will recommend adjustments and changes based upon year 1 assessments from the risk management plan and the results of the evaluation component. (Project Executive = \$131,775; 1 Project Managers and Content Experts/Architects \$85,050 X 2 = \$170,100) 5% COL adjustment
Year 3–Grant	\$316,970	Project Management & Systems Integration Expertise: The project management team will recommend adjustments and changes based upon year 2 assessments from the risk management plan and the results of the evaluation component. (Project Executive = \$138,364; 1 Project Managers and Content Experts/Architects \$89,303 X 2 = \$178,606) 5% COL adjustment

Funding Source	Amount	Justification
Component 2: Data Warehouse and P-20 Longitudinal Data System		
Year 1–Grant	\$70,000	The Wave Data Warehouse--Analysis: The current data warehouse follows the Kimble data mart design that allows for enhancements of additional data marts to accommodate the new SIF elements and objects collected. Analysis is required to design the enhancements. (CPSI Analyst 400 hours @ \$175/Hr)
Year 1–Grant	\$420,000	The Wave Data Warehouse--Enhancements: Building and implementing the enhancements as designed. It is anticipated that the enhancements will be additive as dedicated data marts in the existing Wave Data Warehouse model. The enhancements would be placed on the current Wave Data Warehouse. (This amount includes: CPSI Developers 400 Hours @ \$175 per hour = \$70,000; Additional Licensing/Services for Enhancements to Data Warehouse \$150,000; SDE Contracted Developer \$200,000)
Year 2–Grant	\$30,000	The Wave Data Warehouse--Enhancements: Software Maintenance and Support \$30,000
Year 3–Grant	\$30,000	The Wave Data Warehouse--Enhancements: Software Maintenance and Support \$30,000
Year 1–Grant	\$85,000	The Oklahoma State Department of Education Data Warehouse—Analysis and Design: Internal data sources not collected through the Wave will be analyzed for import into the data warehouse. The Wave system utilizes CPSI sophisticated extract, transform, and load (ETL) toolsets. These tools can effectively import from virtually any data source needed. This cost is for the analysis of the data types and sources so that they can be imported. CPSI will work with SDE to design these collections. (CPSI Developer 400 Hours @ \$175 per hour = \$70,000; Internal SDE Staff Costs \$15,000)

Funding Source	Amount	Justification
Year 1–Grant	\$200,000	The Oklahoma State Department of Education Data Warehouse—Development: This data warehouse is a set of data marts associated with the Wave Data Warehouse. The data marts contain data from sources within SDE. (CPSI Developer 400 Hours @ \$175 per hour = \$70,000; Internal SDE Staff Costs \$130,000)
Year 2–Grant	\$82,500	The Oklahoma State Department of Education Data Warehouse—Development: The second year would be continued development on the Data Warehouse. (CPSI Developer 100 Hours @ \$175 per hour = \$17,500; Internal SDE Staff Costs \$65,000)

Funding Source	Amount	Justification
Year 1–Grant	\$200,000	<p>The Oklahoma P-20 Longitudinal Data System—Analysis and Design: This longitudinal data warehouse will be built from the existing infrastructure begun with the Wave. The P-20 LDS will include the collection of selected data from Pre-Kindergarten systems, the Wave LDS, OSRHE, ODCTE and Workforce sources. Analysis will determine which data will be consolidated, common definitions, and processes. Representatives from each agency will contribute in-kind time and resources to this effort. The Standards Component will provide the process and tools for documenting the decisions made in this component. The P-20 Data Coordinating Council shall advise the SDE, OSDHE, ODCTE, Office of Accountability, OESC, the Legislature, and the Governor on coordination of the creation of a unified longitudinal data system to provide interoperability and efficient and effective storage, use, and sharing of data. The P-20 LDS will be housed at the Oklahoma State Department of Education, as there are facilities here for the system and the infrastructure is in place. The State has existing infrastructure to connect all participating agencies to this facility when the P-20 LDS is operational. The Project Management group, in conjunction with SDE staff, will maintain responsibility for the overall accountability of this component. Each of the participating levels, Pre-Kindergarten, Workforce, the Wave (PK-12), ODCTE, and OSRHE will have managers and support to handle their responsibilities for providing data and supporting their users. (Contractual/Internal Staff Costs)</p>

Funding Source	Amount	Justification
Year 1–Grant	\$820,000	The Oklahoma P-20 Longitudinal Data System—Development: Building and implementing the system as designed in the prior phase. This will be an expansion of the current LDS infrastructure and will build off of the licensing provided as part of this in-progress project. The costs cover the extended licensing costs of the current xDStudio LDS system to include the additional agencies, contractor services to implement the P-20 data system as an expansion of the current LDS, and the in-house staff to support the process. (Licensing \$420,000; CPSI Contractor Services \$200,000; Contractual/Internal Staff \$200,000)
Year 2–Grant	\$324,000	The Oklahoma P-20 Longitudinal Data System—Development: Continued development will occur in Year 2. The costs cover the software maintenance costs for the extended licensing of the current xDStudio LDS system for the P-20 LDS, and the in-house staff to support the process. (Software Maintenance \$84,000; CPSI Contractor Services \$40,000; Contractual/Internal Staff \$200,000)
Year 3–Grant	\$84,000	The Oklahoma P-20 Longitudinal Data System—Software Maintenance: Software maintenance costs for the extended licensing of the current xDStudio LDS system for the P-20 LDS

Funding Source	Amount	Justification
Year 1–Grant	\$350,000	<p>Expansion of Student Identifier System: Every agency in Oklahoma has its own system for identifying students, clients, and the individuals served. Unfortunately that does not work in a consolidated Statewide LDS spanning different agencies and many years, both for individual growth analysis as well as aggregate reporting. SDE assigns a Student Testing Number (STN or Unique ID) to each student. With the development of common policies and procedures, the OKLDS Project participants will determine how to align their disparate systems to link records within the P-20 LDS. In the planning for the OKLDS, it has been agreed upon that each of the other agencies will participate in the expansion of the SDE's unique ID process. The process will consolidate numbers so that students/clients can be tracked across agencies and years. SDE will work with those agencies and programs to provide access to the software that assigns and manages the STN's. This cost is to extend the license for xDUID to those agencies and the number of individuals, and for services attached to assisting each agency assign the UID's. (xDUID Expanded Licensing = \$200,000; CPSI Services \$150,000)</p>
Year 2–Grant	\$60,000	Software Maintenance and Help Desk for Student Identifier System – Year 2
Year 3–Grant	\$60,000	Software Maintenance and Help Desk for Student Identifier System – Year 2

Funding Source	Amount	Justification
Year 1–Grant	\$350,000	Decision Support System: The OKLDS system will deliver queries and reports as required by all users of PK systems and workforce systems, which are anticipated to need the most definition standardization to be incorporated into the P-20 LDS. Portions of their data may come on-line earlier as the governance groups determine they are ready. The OKLDS will utilize the current availability of xDTools and xDAdHoc, and the costs listed will include expanding the licensing of the system to include all the necessary stakeholders and users. (Expanded Licensing of xDTools and xDAdHoc = \$225,000; CPSI 200 Hours @ \$150 per hour = \$30,000; Internal/Contractual Staff Costs = \$95,000)
Year 2–Grant	\$200,000	Decision Support System: The OKLDS system will deliver queries and reports as required by all users of PK systems and workforce systems, which are anticipated to need the most definition standardization to be incorporated into the P-20 LDS. Portions of their data may come on-line earlier as the governance groups determine they are ready. The OKLDS will utilize the current availability of xDTools and xDAdHoc, and the costs listed will include expanding the cost of software maintenance and support. The listed cost also includes an in-house staff member to maintain the dashboards and public reports. (Software Maintenance Costs = \$50,000; CPSI 200 Hours @ \$150 per hour = \$30,000; Internal/Contractual Staff = \$120,000)

Funding Source	Amount	Justification
Year 3–Grant	\$200,000	<p>Decision Support System: The OKLDS system will deliver queries and reports as required by all users of PK systems and workforce systems, which are anticipated to need the most definition standardization to be incorporated into the P-20 LDS. Portions of their data may come on-line earlier as the governance groups determine they are ready. The OKLDS will utilize the current availability of xDTools and xDAdHoc, and the costs listed will include expanding the cost of software maintenance and support. The listed cost also includes an in-house staff member to maintain the dashboards and public reports. (Software Maintenance Costs = \$50,000; CPSI 100 Hours @ \$150 per hour = \$15,000; Internal/Contractual Staff = \$135,000)</p>
<u>Component 3: The Wave Enhancements</u>		
Year 1–Grant	\$75,000	<p>The Wave New SIF Objects--Analysis: Currently, The Wave system automates the collection of 12 SIF data objects from each LEA's SIS. These SIF objects do not contain sufficient informational elements to fully replace current aggregate web collections within SDE. Expansion to additional SIF objects and the addition of new elements within the current objects requires an analysis of the aggregate statistics collected and reported, the component elements necessary to calculate them, the SIF objects where they can be collected, their current status in the SIF standard (e.g., mandated or optional), and the phase in schedule that is practical for the districts and SDE.</p> <p>This requires a change in the Oklahoma SIF State Profile. It will also require a change in the districts' student information systems' SIF agents in place currently. The Wave with consultants will conduct the appropriate analysis needed to determine the new data required and make the required changes in the SIF State Profile for Oklahoma. (CPSI Consultant 400 hours @ \$150/Hr = \$60,000; Internal Staff Costs = \$15,000)</p>

Funding Source	Amount	Justification
Year 1–Grant	\$220,000	<p>The Wave New SIF Objects—Design and Development: SDE estimates that an additional SIF objects to be determined by the Gap Analysis documentation. The objects will also need to be added to The Wave profile and supported at the district level. Necessary objects can be added to the Wave Profile at any time. The existing Wave software provided by CPSI supports the addition of unlimited objects and elements. If the object or element does not exist in the current SIF specification, it can be collected as a custom object or extended element. Oklahoma’s SIF certification profile and test harness will also need to be upgraded to include these changes. CPSI will work with the SIFA organization to extend the SIF harness to update the SIF infrastructure. The software in place is sufficiently scalable and dynamic to fully accept any changes as they are needed. Equipment needs are listed in the Equipment section. (CPSI 1,467 hours @ \$150/Hr)</p>

Funding Source	Amount	Justification
Year 1–Grant	\$75,000	<p>The Wave SIF Agent Test Platform—Analysis and Design: The Wave will need to expand on the Oklahoma SIF Profile to ensure that all of the SIS vendors in the state meet or exceed the requirements of the initiative. To this end, the Wave will setup a Wave SIF Agent Test Lab. The lab will be put in place in order to test SIF agents before they go live on the Wave system. The Wave does not wish to “own” the applications or the SIF agents. Therefore, we propose to use funds to purchase hardware for the lab. Each vendor that wishes to have an installation of their SIS in Oklahoma must install, configure, and setup their application and SIF agent in the lab at no cost to the SDE. These vendors must also provide the personnel support for the applications and SIF agents.</p> <p>The SDE will provide the ZIS and the Wave applications for this test bed, duplicating what is currently at the Wave. The applications and SIF agents will be tested in the pilot environment by the vendors. The Wave will develop criteria for testing and will ensure that all SIS vendors in the state meet the requirements for deploying their SIF agent in the production environment. Once the application and SIF agent have passed the tests, they can be deployed in the production environment. Any vendor that does not wish to provide applications and personnel at no charge will not be considered Oklahoma Certified for installation and deployment to the Wave production system. What is currently happening when the Wave is unable to receive data from a district’s student information system, the vendor utilizes the live system as a “test bed”, wasting valuable district and SDE staff resources. The Wave would prefer to provide the necessary “test bed” for the vendor to prevent this from occurring. It will become a valued service to the vendors as well, as they will be able to test their system before putting it into production. (Contractual/Internal Staff = \$75,000)</p>

Funding Source	Amount	Justification
Year 2–Grant	\$140,000	<p>The Wave SIF Agent Test Platform—Implementation: To implement the SDE Wave Test Lab, SDE will setup the hardware and Wave software for use as a test platform. The vendors will provide the software, installation, support, and maintenance at no cost SDE will purchase and install a server and operating system for each to support each of these systems at a one-time cost that is listed in the Equipment section of the Budget Narrative. Each SIS's SIF agent provider will install and configure their agent in the SDE Wave Test Lab zone at no cost. (Wave Internal/Contractual = \$125,000)</p> <p>Oklahoma City Public Schools has a self-developed SIS; therefore, a budget of \$15,000 is set for technical assistance to be contracted by that district to determine how they can participate in this process. (Technical Expert 100 hours @ \$150/Hr)</p>
Year 3–Grant	\$53,550	<p>The Wave SIF Agent Test Platform—Implementation: To continue implementation of the SDE Wave Test Lab, maintenance and support of the hardware and Wave software will need to be continued.</p>
Year 2–Grant	\$100,000	<p>The Wave New SIF Objects—Training and Support for Districts and SDE Staff: All district and SDE staff will need to be trained on the changes. User guides and support materials will need to be modified. SDE/Wave will work with consultants (technical writers/trainers) to develop rollout of SIF objects with SIS vendors/districts. (Contractual 500 hours @ \$110/Hr = \$55,000; Internal/Contractual = \$45,000)</p>

Funding Source	Amount	Justification
Year 1–Grant	\$48,000	Enhancement and Development of Business Rules: Business rules are in use in the current system to test data quality across records, districts, and school years. New business rules will need to be implemented to accommodate the new data gathered and collected. SDE and CPSI will continue to use and expand this process to document and validate business rules to best assure the quality and reliability of the data within the Wave collections as they arrive at the SDE. The business rules will be developed using the current contracted xDValidator toolset from CPSI. The data is automatically collected in the Data Dictionary LDS. The more extensive data collection will require a new set of data rules. (320 hours @ \$150/Hr)
Year 2–Grant	\$48,000	Enhancement and Development of Business Rules: Business rules are in use in the current system to test data quality across records, districts, and school years. New business rules will need to be implemented to accommodate the new data gathered and collected. SDE and CPSI will continue to use and expand this process to document and validate business rules to best assure the quality and reliability of the data within the Wave collections as they arrive at the SDE. The business rules will be developed using the current contracted xDValidator toolset from CPSI. The data is automatically collected in the Data Dictionary LDS. The more extensive data collection will require a new set of data rules. (320 hours @ \$150/Hr)
Year 1–Grant	\$70,050	Enhancement of the Validation Errors Web Interface: The benefits from state-level trials come when the districts use reports generated to clean their data of errors they could not have known about from their own efforts. To do this, the current web based system for error reporting will need to be expanded. (467 hours @ \$150/Hr)

Funding Source	Amount	Justification
Year 2–Grant	\$100,000	<p>The Wave Reports—Analysis and Design: Unlike the web-based error reports for the districts that highlight errors and lead districts and schools to ways to correct their data, the Wave Reports function at a higher level to provide the administrators and managers a preview of their official statistics that will follow when their data are turned into reports by the State. A school or district at the time of reporting needs to have help seeing the big picture—are there about the same number of graduates this year? The Wave Reports will provide year-to-year comparison statistics that give the schools and districts a heads up that their data are adding up right. This phase will analyze AYP, accreditation, annual report cards, and other key reports to identify statistics that schools and districts value. The Wave will use its existing licensing for xDTools and xDAdHoc, along with xDStAR (Student Assessment Reporting) to design these reports that are automatically generated and updated using the current licensed software and will be summarized for official public statistics onto a State Dashboard. (CPSI Consultant 660 hours @ \$110/Hr = \$66,000; Internal/Contractual Staff = \$34,000)</p>
Year 2–Grant	\$15,000	<p>The Wave Reports—Development and Production: The reports will be developed and placed into production in The Wave. (100 Hours @ \$150/Hr)</p>

Funding Source	Amount	Justification
Year 1–Grant	\$22,500	The Wave Certified Submissions--Design: The Wave uses SIF to collect real-time data from schools on a continuous basis. They receive continuous error reports for review and correction. There is a need to provide the schools and districts an opportunity to certify and verify their data that is to be used for an official count. The certification process will allow the LEA's the ability to see their "official" data as of the official reporting date. It will not freeze the submission process but will capture a snapshot of the data on the official reporting date. Since errors are continuously corrected through the year, the districts will merely have to certify their reported data as per federal law on the date of the official count. This activity will identify the dates and create the design for the web-based certification process. (150 hours @ \$150/Hr)
Year 1–Grant	\$37,500	The Wave Certified Submissions—Development and Implementation: This task is to develop and implement the design for the certified submission process. (250 hours at \$150 per hour)

Funding Source	Amount	Justification
Component 4: Higher Education Data Quality Improvement		
Year 1–Grant	\$500,000	<p>Expansion and Enhancement of the Current Higher Education LDS – Currently, The OSRHE has a data collection model based on timely file uploads via a web interface. Data is validated during the upload process and stored in an operational data store. Data is then moved to the OSRHE LDS and reports are generated on that data. Data cannot be taken directly from postsecondary institutions' systems into the P-20 LDS longitudinal database without perpetuating errors and delaying the process of cleaning the data. In order to be effective, the system must be upgraded, enhanced, and expanded to provide for larger capacity and better data handling.</p> <p>This component inserts a staging data store between the postsecondary institutions and the Regents data warehouse to help the postsecondary institutions see their data errors, analyze how to fix them, and submit a certified file without errors. This provides the Regents with the opportunity to work with clean data and the time to conduct higher level analyses rather than expend time correcting errors. In addition, the staging database ensures that the data files passed along to the data warehouse and then to the P-20 LDS are in perfect form.</p> <p>Costs included allow the OSRHE to upgrade and expand their system according to needs. The amount includes contracting for consulting services and software licensing. OSRHE will choose their own consultants and software applications to accomplish this goal. (\$250,000 Consulting; \$250,000 Software)</p>
Year 1 – Grant	\$52,500	<p>Unique ID Matching – This component covers the consulting work for CPSI to assist with the UID assignment process for Higher Education. (CPSI 300 Hours @ \$175 per Hour = \$52,500)</p>

Funding Source	Amount	Justification
Year 2–Grant	\$300,000	Expansion and Enhancement of the Current Higher Education LDS – Continued work on the expansion and enhancement of the Current Higher Education LDS.
Year 1–Grant	\$75,000	<p>Data Collection #1 – An individual data collection or submission contains a logical grouping of data elements from the postsecondary institutions for a periodicity that meets a specific reporting requirement for the Regents.</p> <p>The consultant chosen will work with the Regents technical staff to perform Data Collection #1. This includes the determination of requirements, business rules, data definitions, formats, periodicities, integration requirements, schedules; configuration of business rules and formats; and pilot testing and full launch. (600 hours @ \$125/Hr)</p>
Year 1–Grant	\$250,000	<p>Data Collection #2 – An individual data collection or submission contains a logical grouping of data elements from the LEA for a periodicity that meets a specific reporting requirement for the Regents.</p> <p>The chosen consultant will work with the Regents technical staff to perform Data Collection #2. This includes the determination of requirements, business rules, data definitions, formats, periodicities, integration requirements, schedules; configuration of business rules and formats; and pilot testing and full launch. (2,000 hours @ \$125/Hr)</p>
Year 2–Grant	\$100,000	Software maintenance and support license fee.
Year 2–Grant	\$46,000	Data Collection #1 maintenance and support.
Year 2–Grant	\$92,000	Data Collection #2 maintenance and support.
Year 3–Grant	\$100,000	Software maintenance and support license fee.
Year 3–Grant	\$48,000	Data Collection #1 maintenance and support.

Funding Source	Amount	Justification
Year 3–Grant	\$98,000	Data Collection #2 maintenance and support.
<u>Component 5: Electronic Records and Transcripts Exchange</u>		
Year 1–Grant	\$350,000	Electronic Records and Transcript Exchange-- Analysis: Analyze and design the K-12 to K-12, the high school to postsecondary, and the postsecondary to postsecondary exchange process and system requirements. Procure the system components as needed.
Year 2–Grant	\$600,000	Electronic Records and Transcript Exchange-- Implementation: Full implementation.
Year 3–Grant	\$600,000	Electronic Records and Transcript Exchange-- Implementation: Full implementation.
<u>Component 6: Pre-Kindergarten Data Quality Improvement</u>		
Year 1–Grant	\$220,000	Pre-Kindergarten Data Standards, Processes, & Training—Analysis & Development: Full-time staff position to coordinate and provide the data standards among the pre-kindergarten services and programs; establish the processes for data exchange; and plan and coordinate the training. Materials and expenses for these activities will be provided.
Year 2–Grant	\$255,000	Pre-Kindergarten Data Standards, Processes, & Training—Delivery & Implementation: Full-time staff position to coordinate and provide the data standards among the pre-kindergarten services and programs; establish the processes for data exchange; and plan and coordinate the training. Materials and expenses for these activities will be provided.
Year 3–Grant	\$275,000	Pre-Kindergarten Data Standards, Processes, & Training—Delivery & Implementations: Full-time staff position to coordinate and provide the data standards among the pre-kindergarten services and programs; establish the processes for data exchange; and plan and coordinate the training. Materials and expenses for these activities will be provided.

Funding Source	Amount	Justification
<u>Component 7: Workforce Data Quality Improvement</u>		
Year 1–Grant	\$220,000	Workforce Data Standards, Processes, & Training—Analysis & Development: Full-time staff position to coordinate and provide the data standards among the workforce services and programs; establish the processes for data exchange; and plan and coordinate the training. Materials and expenses for these activities will be provided.
Year 2–Grant	\$255,000	Workforce Data Standards, Processes, & Training—Delivery & Implementation: Full-time staff position to coordinate and provide the data standards among the workforce services and programs; establish the processes for data exchange; and plan and coordinate the training. Materials and expenses for these activities will be provided.
Year 3–Grant	\$275,000	Workforce Data Standards, Processes, & Training—Delivery & Implementation: Full-time staff position to coordinate and provide the data standards among the workforce services and programs; establish the processes for data exchange; and plan and coordinate the training. Materials and expenses for these activities will be provided.
<u>Component 8: Career and Technical Education Data Quality Improvement</u>		

Funding Source	Amount	Justification
Year 1–Grant	\$1,137,500	<p>Continued development and completion of a statewide student information and data warehousing system. Careertech’s student information system will address business processes associated with high school, adult, and business and industry clientele.</p> <ul style="list-style-type: none"> ▪ Personnel Management (state, technology center, and comprehensive school position identification and management). ▪ Enrollment Management (student-level data collection & validation, WAVE student testing number integration, encryption, real-time XML data exchange capabilities). ▪ Data Warehouse (Create ETL and metadata tagging & retrieval solution (Pentaho, SAS, Crystal, or Cognos), facilitate data reporting and analysis, create facilities for two-way partner data exchange (OSDE, OSRHE, OESC), create facilities for stakeholder longitudinal data analysis).
Year 2–Grant	\$1,462,500	<p>Development of technology center and comprehensive school data systems for submitting real-time, student-level data to the ODCTE.</p> <ul style="list-style-type: none"> ▪ Identify, purchase, and install additional hardware necessary to acclimate ODCTE data center. ▪ Perform requirements analysis and design of delivery arm student information systems. <p>Develop delivery arm software per requirements and design documents. (1,096,875 software; \$365,625 hardware)</p>

Funding Source	Amount	Justification
Year 3–Grant	\$650,000	<p>Implementation & training.</p> <ul style="list-style-type: none"> ▪ Perform full life-cycle product testing of all software modules. ▪ Produce documentation and captivate modules for the proper use of the State and delivery arm data systems. ▪ Produce documentation and captivate modules for the proper use of the selected business intelligence tools. ▪ Conduct training sessions for users.
<u>Component 9: Governance</u>		
Year 1–Grant	\$20,000	<p>Information Architecture – An overall set of standards and policies must be adopted and followed to ensure the OKLDS can be maintained efficiently and be sustainable as one that consistently delivers data for timely decision making. This component is already in place at the SDE and utilizes the SIF specifications as designated by the legislature. The SIF specifications, along with chosen custom objects and extended elements, leverage best practices from USED, NCES/Forum initiatives, and a proven data standard to build an information systems architecture to guide the design, procurement, integration, management, and maintenance of the longitudinal data system.</p> <p>The SDE will utilize internal and contracted staff to : gather documentation; conduct interviews and follow-up if needed; draft, review, finalize, and present the final ISA document; facilitate meetings with stakeholder groups as appropriate; provide templates, process maps, and drafts for needed references; and allow for maintenance of the document. (100 hours @ \$200/Hr)</p>

Funding Source	Amount	Justification
Year 1–Grant	\$15,000	<p>Process Flow Diagram – In order to improve how all the SDE's information system's components interact with each other, they must be identified and described in terms of their relationships to each other. The SDE currently has a developed process flow, but this will need to be expanded upon to include the additional agencies and data collections. This component creates a data flow diagram that details the current information ecosystem to ensure that all the data sources and users are accounted for in future designs.</p> <p>The SDE will utilize internal staff and contracted resources to gather documentation; conduct interviews to identify current collections, data stores, outputs and their relationships, and follow-up if needed; draft, review, finalize, and present the process flow map depicting the information ecosystem; provide the data steward and office responsible chart, the printed graphics and Visio files; and maintain the documents. (75 hours @ \$200/Hr)</p>
Year 1–Grant	\$10,000	<p>Data Access and Management Policy – Literally dozens of legal, regulatory, and management mandates impose themselves on the handling of data within the LDS. FERPA, HIPAA, and other protections must be followed. The SDE proposes to contract with an experienced resource to analyze and provide recommendations for their methodology for a Data Access and Management Policy. This component will serve as a comprehensive review of all of these mandates, a prerequisite to the changes to be made with this grant, and an ongoing process to ensure a sustainable review process is necessary.</p> <p>The contractor will: conduct interviews with legal staff, policy makers, and management staff for involved agencies to document mandates related to data records for accommodation in the Data Access and Management Policy; draft the policy for the SDE incorporating best practices from other SEAs; finalize the policy document after review by stakeholder groups and legal staff; and train the SDE on maintenance of the document. (50 hours @ \$200/Hr)</p>

Funding Source	Amount	Justification
Year 2–Grant	\$4,200	The SDE and the contracted resource will update the Information Architecture (IA) document; conduct interviews and follow-up if needed; draft, review, finalize, and present the updated ISA; and maintain of the document. (20 hours @ \$210/Hr)
Year 2–Grant	\$3,360	The SDE and the contracted resource will update the process flow diagram, documentation; conduct interviews and follow-up if needed; draft, review, finalize, and present the updated <i>diagram</i> ; and maintain the document. (16 hours @ \$210/Hr)
Year 2–Grant	\$3,360	The SDE and the contracted resource will update the Data Access and Management Policy; conduct interviews and follow-up if needed; draft, review, finalize, and present the policy document; and maintain the document. (16 hours @ \$210/Hr)
Year 3–Grant	\$4,410	The SDE and the contracted resource will update the Information Architecture (IA) document; conduct interviews and follow-up if needed; draft, review, finalize, and present the updated ISA; and maintain the document. (20 hours @ \$220.50/Hr)
Year 3–Grant	\$3,528	The SDE and the contracted resource will update the process flow diagram documentation; conduct interviews and follow-up if needed; draft, review, finalize, and present the updated diagram; and maintain the document. (16 hours @ \$220.50/Hr)
Year 3–Grant	\$3,528	The SDE and the contracted resource will update the Data Access and Management Policy; conduct interviews and follow-up if needed; draft, review, finalize, and present the policy document; and maintain the document. (16 hours @ \$220.50/Hr)

Funding Source	Amount	Justification
<u>Component 10: Standards</u>		
Year 1–Grant	\$85,000	<p>Online Metadata Dictionary – The SDE currently maintains an online metadata dictionary for the Wave. This process will expand the Metadata Dictionary with the new data objects, elements, and processes in order to maintain standards. We must have a common standard for data element definitions in order to achieve the interoperability required to share data within SDE and among other agencies and to gather data into the common OKLDS. This is especially challenging because OSRHE, Pre-Kindergarten, ODCTE, and Workforce agencies have not participated in the data standardization efforts that the Wave has through NCES and the Forum on Education Statistics have led. In order to ensure comparability across the data to be consolidated into the OKLDS, the participating agencies will establish common data standards by adding the data collections to the current metadata dictionary. Alignment of those adopted standards to the NCES Handbooks, SIF, NEDM, IPEDS, PECS, <i>EDFacts</i>, and other national standards will reduce the requirements for translations and crosswalks when reporting. The SDE and the consultant will: gather documentation, conduct interviews; convert to electronic format transformations, importing, mapping items and data elements from collections, repositories, and outputs as needed to the new consolidated OKLDS metadata dictionary; map to SIF or other standards as designated by the SDE; create user accounts as needed and designate user roles (Includes 250 hours of professional services)</p>

Funding Source	Amount	Justification
Year 1–Grant	\$42,750	<p>EDFacts Analysis and Federal Reporting – With the conversion to the complete use of the Wave’s unit record-level data, there will need to be a complete re-engineering of most of the source data for <i>EDFacts</i>. The aggregate statistics as required to be calculated and reported for <i>EDFacts</i> must be determined and automated from the Wave and the other data warehouse source data marts. CPSI has developed an automated mechanism for providing EdFacts reports via SIF during the pilot with Perot Systems, the SIFA organization, and the South Carolina Department of Education pilot. CPSI will work with the SDE to create the <i>EDFacts</i> submission files. The SDE desires to improve both the number of submission files that are currently being provided to <i>EDFacts</i> and the number of data elements within those files. The SDE will contract with CPSI to establish a sustainable process for ongoing <i>EDFacts</i> submissions. This redesign will include the knowledge transfer to ensure that SDE acquires the comprehensive processes and the full capacity to continue producing complete <i>EDFacts</i> submissions into the future.</p> <p>CPSI will: implement xDTools for capturing data from the data marts; converting unit records or source records to required formats and granularities and into submission files; convert into required XML submission files for automatic uploading to USED once data is certified. (285 hours @ \$150/Hr)</p>
Year 1–Grant	\$35,250	<p>In order to improve the number of <i>EDFacts</i> submission files, the SDE needs to conduct a thorough inventory of the authoritative data sources now being used to identify where there are gaps in the data elements required for reporting.</p> <p>The SDE and CPSI will: conduct discovery sessions to gather documentation of authoritative data sources for <i>EDFacts</i> reporting; map elements available to the <i>EDFacts</i> requirements, and produce a Map and Gap Analysis Report. (235 hours @ \$150/Hr)</p>

Funding Source	Amount	Justification
Year 1–Grant	\$20,000	<p>Course Catalog – SDE has an existing course numbering system and has been interested in working on the crosswalk of the current course numbering system to the new SCED classification system, but resources have not been available to complete this process. This conversion would facilitate articulation with higher education for transcript exchange, translations of student records for credits for mobile students, and alignment of courses for the growing virtual coursework in the State. With the OKLDS consolidating coursework, ongoing credits, training, and other professional development, the need for a common classification system grows monthly.</p> <p>The SDE currently has licensed the xDUA as a tool to map and crosswalk local, state, and other agency courses to SCED. The SDE will contract with CPSI to provide the data mappings for the LEA's and the SEA. This process will reduce the time and burden significantly.</p> <p>The cost covers services to complete the mappings and crosswalks of LEA and SDE course numbers to SCED and to crosswalk LEA course numbers to SDE numbers.</p> <p>The SDE will contract with SIFA and Jim Campbell to help with the crosswalks. The costs listed are contracted costs being paid to SIFA.</p>
Year 1–Grant	\$90,000	<p>The SDE needs expert assistance to perform the crosswalks and to establish a course classification system.</p> <p>The cost covers the services fee for the design of the SDE course crosswalks; mapping SDE course system to SCED; training LEAs; and assisting in the mapping of LEA systems to the SDE system and to SCED. (450 hours @ \$200/Hr)</p>

Funding Source	Amount	Justification
Year 2–Grant	\$50,000	Continued ED <i>Facts</i> Analysis and Federal Reporting services; maintenance of requirements as changes occur from USED; full annual reporting cycle. (333.3 hours @ \$150/Hr)
Year 2–Grant	\$4,000	xDUA ED <i>Facts</i> Reporting Module maintenance and support fee.
Year 3–Grant	\$50,000	Continued ED <i>Facts</i> Analysis and Federal Reporting services; maintenance of requirements as changes occur from USED; full annual reporting cycle. (333.3 hours @ \$150/Hr)
Year 3–Grant	\$4,000	xDUA ED <i>Facts</i> Reporting Module maintenance and support fee.
<u>Component 11: Evaluation</u>		
Year 1–Grant	\$24,000	<p>The SDE needs an external perspective on the plan for implementation of the grant activities. Specifically a practical view from experts with experience in other states that have implemented similar projects is needed. The SDE will contract to procure these services.</p> <p>The contractor will provide the SDE with an external evaluation consultant review of LDS project plan, objectives, timeline, and deliverables; develop a risk assessment analysis; provide preliminary report and recommendations for project management, governance, and oversight. (120 hours @ \$200/Hr)</p>
Year 1–Grant	\$28,000	<p>Contractor will provide assistance with the preparation of monthly reports that will allow the SDE staff to focus on delivery of the project outcomes.</p> <p>The contractor will conduct monthly external LDS status reviews and provide reports to the management team, executive team, and IES as required. (7 months X 20 hours @ \$200/Hr)</p>

Funding Source	Amount	Justification
Year 1–Grant	\$14,400	<p>Contractor will provide assistance with the preparation of quarterly reports will allow the SDE staff to focus on delivery of the project outcomes.</p> <p>The contractor will conduct quarterly external LDS reviews and provide reports to the management team, executive team, and IES as required. (3 months X 24 hours @ \$200/Hr)</p>
Year 1–Grant	\$7,200	<p>Contractor will provide assistance with the preparation of annual reports that will allow the SDE staff to focus on delivery of the project outcomes. An independent perspective will add credibility to the report and will add insights that may not come from an internal view.</p> <p>The contractor will conduct an annual external LDS review and provide an evaluation report to the management team, executive team, and IES as required. (1 X 36 hours @ \$200/Hr)</p>
Year 2–Grant	\$33,600	Contractor will provide monthly external LDS status reviews and reports to management team, executive team, and IES as required. (8 months X 20 hours @ \$210/Hr)
Year 2–Grant	\$15,120	Contractor will provide quarterly external LDS reviews to the management team, executive team, and IES as required. (3 months X 24 hours @ \$210/Hr)
Year 2–Grant	\$7,560	Contractor will provide an annual external LDS review and an evaluation report to the management team, executive team, and IES as required. (1 X 36 hours @ \$210/Hr)
Year 3–Grant	\$35,280	Contractor will provide monthly external LDS status reviews and reports to the management team, executive team, and IES as required. (8 months X 20 hours @ \$220.50/Hr)
Year 3–Grant	\$15,876	Contractor will provide quarterly external LDS reviews to the management team, executive team, and IES as required. (3 months X 24 hours @ \$220.50/Hr)

Funding Source	Amount	Justification
Year 3–Grant	\$7,938	Contractor will provide an annual external LDS review and an evaluation report to the management team, executive team, and IES as required. (1 X 36 hours @ \$220.50/Hr)
Component 12: Training and Support		
Year 1–Grant	\$480,000	<p>We propose to hire new employees to handle training and support for the LEA's and the agencies for the OKLDS system. These new employees would serve under the direction and control of the SDE and be housed in its Oklahoma City office building. Their primary roles will be to monitor the collection within their assigned areas and to ensure that all LEA's and agency stakeholders are trained in the use of the Decision Support System, as well as the error reporting system. They would be assigned initially as follows (although, depending on the problems encountered with data and hardware at various locations, it may be necessary to re-assign staff toward a more efficient use of this manpower):</p> <p>Each number listed is the anticipated quantity of Internal/Contracted Individuals:</p> <p>Pre-K and Early Childhood - 1 K-12, including The Wave and Careertech - 6 Higher Education - 2 Workforce - 1 P-20 LDS Test Lab – 1</p> <p>For budget-predicting purposes, it is expected that each Internal/Contracted person, on average, would earn a starting salary of \$38,000/year, plus \$100,000 for the P-20 LDS Test Lab person, for a total in Year 1 of \$480,000.</p>
Year 1–Grant	\$4,000	Two senior project staff to attend 2 day meeting in Washington D.C.
Year 2–Grant	\$4,000	Two senior project staff to attend 2 day meeting in Washington D.C.

Funding Source	Amount	Justification
Year 3-Grant	\$4,000	Two senior project staff to attend 2 day meeting in Washington D.C.
Year 2-Grant	\$504,000	<p>The training and technical support individuals would continue in Year 2.</p> <p>Pre-K and Early Childhood - 1 K-12, including The Wave and Careertech - 6 Higher Education - 2 Workforce - 1 P-20 LDS Test Lab – 1</p> <p>This amount represents a 5% COL increase over Year 1.</p>
Year 2-Grant	\$529,200	<p>The training and technical support individuals would continue in Year 2.</p> <p>Pre-K and Early Childhood - 1 K-12, including The Wave and Careertech - 6 Higher Education - 2 Workforce - 1 P-20 LDS Test Lab – 1</p> <p>This amount represents a 5% COL increase over Year 1.</p>

Equipment

Funding Source	Amount	Justification
<u>Component 2: Data Warehouse and P-20 Longitudinal Data System</u>		
Year 1–Grant	\$999,000	<p>Hardware for hosting the new system and software for P-20 LDS.</p> <p>Every one of the 6 Mart Needs:</p> <p>2 Clustered SQL Servers X 6 \$6000 Each X 12 = \$72,000</p> <p>1 SAN for Each of the 6 Marts: \$65,000 X 6 = \$390,000</p> <p>Chassis 2 @ \$10,000 each = \$20,000</p> <p>Web Servers 2 Servers Per Mart \$4000 Each X 12 = \$48,000</p> <p>xDAdHoc Reporting Servers 2 servers per Data Mart \$4000 each X 12 = \$48,000</p> <p>xDInfo Servers 1 per Data mart \$4000 each X 6 = \$24,000</p> <p>xDTools Servers 1 per Data Mart \$6000 each X 6 = \$36,000</p> <p>1 Rack = \$1000 1 Chassis = \$10,000</p> <p>UPS and Electrical Upgrades \$150,000</p> <p>Software \$100,000 SQL and Windows Server</p> <p>Infrastructure \$100,000</p>
<u>Component 3: The Wave Enhancements</u>		
Year 1 – Grant	\$50,000	<p>SIF Agent Test Lab Hardware 15 Servers to House 15 SIS Applications 15 X \$2,000 = \$30,000</p> <p>Hardware for SDE Software \$20,000</p>

Funding Source	Amount	Justification
Year 1 - Grant	\$150,000	4 Reporting Servers, 2 Cube Servers, and 2 xDInfo Servers \$6,000 each = \$48,000 Expand SAN \$65,000 Infrastructure Equipment \$37,000
<u>Component 4: Higher Education Data Quality Improvement</u>		
Year 1–Grant	\$350,000	Hardware for hosting the new system and software for Higher Education. Server Hardware SAN Infrastructure
<u>Component 12: Training and Support</u>		
Year 1–Grant	\$350,000	Hardware for creating the P-20 Test Lab Server Hardware SAN Infrastructure

Travel

Funding Source	Amount	Justification
<u>Component 9: Governance</u>		
Year 1–Grant	\$1,500	Travel (by consultants) to Oklahoma for interviews with policy, and management staff for documentation of standards and procedures related to components and practices in the Information Architecture (IA). (1 person X \$1500 travel and expenses X 1 trip)
Year 1–Grant	\$1,500	Travel (by consultants) to Oklahoma for interviews with data owners, program staff, and IT for data flow mapping; documentation of data stewards and office responsible for each collection, repository, and output. (1 person X \$1500 travel and expenses X 1 trip)

Funding Source	Amount	Justification
Year 1– Grant	\$1,500	Travel (by consultants) to Oklahoma for interviews with legal staff, policy makers, and management staff for documentation of mandates related to data records for accommodation in the Data Access and Management Policy. (1 person X \$1500 travel and expenses X 1 trip)
Year 2– Grant	\$3,000	Travel (by consultants) to Oklahoma for review and update interviews and presentations on the Information Architecture (IA), <i>data flow diagrams</i> , and Data Access and Management Policy. (1 person X \$1500 travel and expenses X 2 trips)
Year 3– Grant	\$3,000	Travel (by consultants) to Oklahoma for review and update interviews and presentations on the Information Architecture (IA), data flow diagrams, and Data Access and Management Policy. (1 person X \$1500 travel and expenses X 2 trips)
<u>Component 10: Standards</u>		
Year 1– Grant	\$1,500	Travel (by consultants) to Oklahoma for interviews with data owners, program staff, and IT for identification of collections, repositories, and outputs to be documented into the enterprise metadata dictionary. (1 person X \$1500 travel and expenses X 1 trip)
Year 1– Grant	\$1,500	Travel (by consultants) to Oklahoma for interviews with data owners, program staff, and IT for identification of authoritative data sources and repositories to be documented for the ED <i>Facts</i> Map and Gap Analysis Report.(1 person X \$1500 travel and expenses X 1 trip)
Year 1– Grant	\$1,500	Travel (by consultants) to Oklahoma for planning sessions with curriculum program staff, data stewards, and district representatives to determine processes for mapping course classifications from LEAS to SDE to SCED using the xDUA(1 person X \$1500 travel and expenses X 1 trip)
<u>Component 11: Evaluation</u>		
Year 1– Grant	\$6,000	Travel (by consultants) to Oklahoma for external LDS review and quarterly status meetings. (1 person X \$1500 travel and expenses X 4 trips)

Funding Source	Amount	Justification
Year 2– Grant	\$6,000	Travel (by consultants) to Oklahoma for external LDS review and quarterly status meetings. (1 person X \$1500 travel and expenses X 4 trips)
Year 3– Grant	\$6,000	Travel (by consultants) to Oklahoma for external LDS review and quarterly status meetings. (1 person X \$1500 travel and expenses X 4 trips)

Budget Narrative

Budget Narrative - ED 524 Section C Spreadsheet

Attachment 1:

Title: **Budget Narrative ED 524 Sec C OKLDS** Pages: **1** Uploaded File: **ED 524 Section C OKLDS.pdf**

Oklahoma State Department of Education

Budget Information – Non-Construction Programs – ED 524 Section C
Budget Breakdown by Project Year

BUDGET CATEGORY	Year 1	Year 2	Year 3	Total	
Personnel					
Contractual	2,824,650	1,747,575	1,852,530	6,424,755	
Internal	2,937,500	2,699,875	1,267,750	6,905,125	
Travel					
Washington DC	4,000	4,000	4,000	12,000	
Consultants	15,000	9,000	9,000	33,000	
Equipment					
Hardware	1,365,625	0	0	1,365,625	
Software	1,065,000	1,223,000	324,000	2,612,000	